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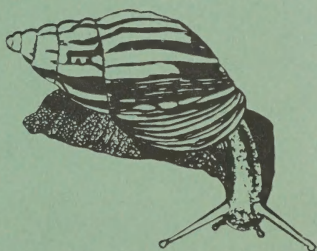
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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

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CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

The title of the "Cooperative Economic Insect Report" has been changed to the "Cooperative Plant Pest Report." This is the first issue of the CPFR. In future months, this report will be expanded to include other pests of plants and animals, such as diseases, snails and slugs, and weeds. It is hoped that through the cooperative efforts of all, a report will develop which will provide a complete and timely picture of the pests affecting agriculture.

Current Conditions

ARMY CUTWORM up to 15 per linear foot in southwestern Oklahoma. (p. 3).

Severe counts of GREENBUG, ranging 101-2,000 per linear foot, on small grains in parts of Texas, Oklahoma, and Kansas. (pp. 3-4).

No additional MEDITERRANEAN FRUIT FLIES found as of January 30. Sterile release program continues. (p. 9).

Detection

- A SPHECID WASP in Texas is a new United States record. (p. 8).

New State records include SOUTHWESTERN CORN BORER in Indiana (p. 4), RHODODENDRON BORER in Alabama (p. 6), an APHID in Utah (p. 8), and two LEAFHOPPERS in Kentucky (p. 11).

For new county records, see page 12.

Special Reports

- Insect Detection in the United States - 1975. There were 15 new United States records and 106 new State records. (pp. 13-21).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods - 1974 (pp. 22-36).

Imported Fire Ant Quarantines. Map. Centerfold.

Some First Occurrences of the Season

ALFALFA WEEVIL larvae in Oklahoma and Kansas.

Reports in this issue are for the weeks ending December 26, 1975, through January 23, 1976, unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - TEXAS - Light to moderate in some Wichita County small grains week ending January 22, 1976. (Boring). OKLAHOMA - Up to 3 per linear foot in some wheatfields in Beckham and Custer Counties week ending December 19, 1975. Counts per linear foot of wheat by county week ending January 2, 1976: Noble up to 5, Caddo up to 4, and Tillman up to 2; counts for week ending January 23: Harper 6-8, Alfalfa 1-4, Comanche up to 15, and Washita up to 5. (OK Coop. Sur.). KANSAS - Larvae up to 0.4 per drill row foot on wheat in Saline and Dickinson Counties week ending January 2, 1976. (Bell).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Roadside spraying ended week ending December 19, 1975, in Kern County. Total of 2,264 acres treated (69 additional acres in Los Angeles County). Up to 6 per sweep found on Leptospartum, a perennial shrub, and Atriplex polycarpa in Jacalitos Canyon and other creek bottoms in area. Beet leafhopper averaged less than one per 100 sweeps in beetfields in some areas. Increased significantly on Leptospartum in canyons around Coalinga, Fresno County, week ending December 26. Heaviest count, 64 per 5 sweeps. Winter annuals scarce except in isolated areas where heavier rains fell. (CA Coop. Rpt.).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Very light, 0-8 per linear foot in Curry County weeks ending January 9 and 23, 1976. (NM Coop. Rpt.).

TEXAS - Greenbug up to 250 per linear foot of drill row in Dallas, Collin, and Kaufman Counties week ending December 19, 1975. Generally light, 1-75 per foot of drill row, in Dickens and Kent Counties. Moderate, 76-150 per foot of drill row, in Childress and Wichita Counties. Heavy, 151-600 per foot of drill row, in Fisher, Hardeman, Jones, Knox, Wilbarger, and Young Counties. Stands reduced in spots where wheat plants small in parts of Knox and Wilbarger Counties. Ranged 0-50 per foot of drill row in Randall, Deaf Smith, and Potter Counties. (Turney et al.). Light on winter oats and rye in Karnes County week ending January 9, 1976. Populations heavy and damaging week ending January 16. Ranged 300-500 per row foot in Baylor and Motley Counties. Ranged 150-300 per row foot in Archer, Stonewall, and Throckmorton Counties. Problem increased on drought-stressed small grain plantings. Wheat and oats treated in some areas of Bell, Coryell, McLennan, and Hill Counties. Cold weather reduced activity; infestations spotty in north-central area. Ranged from few to 600 per foot of drill row in Rolling Plains area week ending January 23. Up to 200 per foot of drill row in north-central area. Treatments still required in Blacklands. Light throughout Panhandle area. Some winter wheat damaged in Uvalde County. Light in Pecos, Reeves, and El Paso Counties. (Boring et al.).

OKLAHOMA - Greenbug heavy on wheat in Custer and Grady Counties week ending December 19, 1975. Counts per linear foot by county: Stephens up to 2,000; Jefferson 100-1,500; Kay 300-400; and Payne averaged about 25. Light to heavy on wheat in all southwest and west-central counties week ending January 2, 1976. Heavy in Oklahoma County. Moderate in Major and Bryan Counties. Averaged

250 greenbugs per linear foot on Beckham County wheat week ending January 9. Heavy in Comanche County. Counts per linear foot by county week ending January 16: Texas averaged 2,000 in wheatfield; Caddo and Kiowa 500-1,000; Tillman 40-400; Cotton 40-250; and Harmon and Greer 15-120. Heavy in Cleveland County. Light in Garvin County. Averaged less than one per linear foot in Wagoner, Muskogee, Haskell, Sequoyah, and Le Flore Counties. Counts per linear foot by county week ending January 23: Washita up to 500 on wheat; Jackson up to 300; and Alfalfa and Noble up to 100. Light to moderate in Pottawatomie County. Light in Major County. (OK Coop. Sur.).

KANSAS - Greenbug counts per row foot averaged by county: Sumner 300 per drill row foot on 5-inch wheat January 6, 1976; Dickinson 12 in wheatfield and Saline 7 on January 12. (Bell). ARKANSAS - Very light in northwest area weeks ending January 2 and 9, 1976. Occasional specimen found on wheat and oats on farm near Fayetteville, Washington County. Buildup not expected until weather warms. (Boyer). VIRGINIA - Heavy populations damaged small grains in Powhatan County week ending December 19, 1975. Treatment difficult due to warm wet weather, allowing insect increase. Schizaphis graminum and Rhopalosiphum maidis infested 85 acres of barley in Caroline County. (Allen).

SPOTTED ALFALFA APHID (Therioaphis maculata) - PENNSYLVANIA - Collected from alfalfa August 4, 1975, at Washington, Erie County, by R. Shiner; Southampton, Franklin County, by J. Maxwell; and at Rapho, Lancaster County, by R. Kline; Waymart Boro, Wayne County, by J. Sporer. Collected August 5, 1975, at Clinton, Wyoming County, by P. Krizauskas and at Leacock, Lancaster County, by C. McGinnett. Collected August 8, 1975, at Cross Creek, Washington County, by M. Garra. Ranged 1-55 per 50 sweeps. These are new county records. (Kim). OKLAHOMA - Still heavy on Garvin County alfalfa week ending December 26, 1975. (OK Coop. Sur.).

CORN, SORGHUM, SUGARCANE

INSECTS

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - INDIANA - Larvae collected from corn at Evansville, Vanderburgh County, by R. Kleinknecht November 1975. Determined by D.M. Weisman. This is a new State record. (Meyer).

SMALL GRAINS

INSECTS

AN APHID (Rhopalosiphum padi) - TEXAS - Light in wheatfields in Motley County week ending December 19, 1975. Light, up to 60 per foot of drill row, in small grain fields in Hardeman and Wilbarger Counties week ending January 9, 1976. Light to moderate in Foard County week ending January 16. Ranged 1-50 per foot of drill row in Archer and Baylor Counties week ending January 23. (Boring).

OKLAHOMA - R. padi heavy on scattered wheat in west-central counties week ending December 19, 1975. Light to heavy in west-central

counties week ending January 2, 1976. Ranged 2-60 Rhopalosiphum padi per linear foot in Noble County. Counts per linear foot by county week ending January 9: Beckham 40-50, Noble 1-58, and Comanche moderate to heavy. Ranged 10-40 per linear foot of wheat in southwest counties week ending January 16. Light in Caddo County. Ranged 300-400 per linear foot on Washita County wheat week ending January 23. Light in Jackson County. (OK Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - ALABAMA - Very heavy on all oats in field of 20+ acres in Geneva County week ending December 19, 1975. Damage heavy with suspected virus of barley yellow dwarf present. Treatments applied in Escambia, Covington, and Mobile Counties. (Reynolds et al.).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Moderate, up to 90 per foot of drill row, on Wichita County wheat week ending December 19, 1975. Heavier, 100-500 per foot of drill row, in Knox and Wilbarger Counties. Increased on small grains, especially oats, in north-central area. Up to 15 per linear foot of row in Collin County week ending January 9, 1976. Light in Rolling Plains area. Up to 350 per foot of drill row in Foard and Hardeman Counties. Spotty in north-central area week ending January 16. Cold weather decreased activity. Light in Archer County week ending January 23. Moderate to heavy in north-central area. (Boring, Turney). OKLAHOMA - Averaged about 250 per linear foot on wheat in west-central counties week ending January 2, 1976. (OK Coop. Sur.).

TURF, PASTURES, RANGELAND

INSECTS

SOUTHERN CHINCH BUG (Blissus insularis) - CALIFORNIA - Nymphs and adults heavy on St. Augustine grass at Oceanside, San Diego County, week ending January 2, 1976. (CA Coop. Rpt.).

A LEAFHOPPER (Osbornellus consors) - KENTUCKY - Two adult males taken near West Liberty, Morgan County, August 8, 1971, from grass and herbaceous woodland plants. Collected by D. Barnett. Determined by P.H. Freytag; confirmed by D. Barnett. This is a new county record. (Barnett).

FORAGE LEGUMES

INSECTS

BLUE ALFALFA APHID (Acyrtosiphon kondoi Shinji) - This aphid was carried in the Cooperative Economic Insect Report in 1975 as Acyrtosiphon sp., loti or caraganae group. It has now been confirmed as A. kondoi by M. Miyazaki. This species is recorded from Japan, Korea, and Manchuria. This is a new North American record. (Russell). See pages 13 and 15 of this issue.

ALFALFA WEEVIL (Hypera postica) - OKLAHOMA - Eggs averaged 73 per square foot on Payne County alfalfa week ending January 9, 1976. Occasional small larvae and several eggs ready to hatch found. (OK Coop. Sur.). KANSAS - Eggs averaged 51 per 3-inch alfalfa stem in Marion County, about 60 percent ready to hatch week ending January 23, 1976. Newly-hatched larvae averaged 1.5 per square foot. (Bell).

KENTUCKY - Alfalfa weevil eggs averaged 8.6, 10.6, 13.4, and 21.0 per square foot in various alfalfa fields in Fayette County December 22, and 60.6 in Barren County December 23, 1975. (Barnett, Parr).

COLE CROPS

INSECTS

WINTER GRAIN MITE (Penthaleus major) - CALIFORNIA - Heavy in Chinese mustard planting at Stockton, San Joaquin County, week ending January 16, 1976. (CA Coop. Rpt.).

DECIDUOUS FRUITS AND NUTS

INSECTS

PECAN CARPENTERWORM (Cossula magnifica) - ALABAMA - Larvae very active and damaged trunks of many large pecan trees in 50-acre orchard in Coffee County week ending December 26, 1975. (Cassaday, Strother).

CITRUS

INSECTS

SPIREA APHID (Aphis spiraecola) - CALIFORNIA - Light on citrus at San Diego, San Diego County, week ending January 9, 1976. Infestations earlier than usual. (CA Coop. Rpt.).

SMALL FRUITS

INSECTS

AN ARMORED SCALE (Velataspis dentata) - ALABAMA - Collected on ornamental Vaccinium sp. at Lake Martin, Tallapoosa County, by C.H. Ray December 15, 1975. Determined by M.L. Williams. This is a new county record. (McQueen).

ORNAMENTALS

INSECTS

RHODODENDRON BORER (Synanthedon rhododendri) - ALABAMA - Many larvae destroyed 2 rhododendron plants at residence at Guntersville, Marshall County. Collected by F. Wood November 10, 1975. Determined by D.M. Weisman. This is a new State record. (Wood et al.).

GREEDY SCALE (Hemiberlesia rapax) - ALABAMA - Collected on Euonymus sp. at Mantua, Greene County, by L. Craft December 21, 1975. Determined by M.L. Williams. This is a new county record. (McQueen).

AN ARMORED SCALE (Abgrallaspis cyanophylli) - ALABAMA - Collected on Ilex sp. at Benevola, Pickens County, by L. Craft November 15, 1975. Determined by M.L. Williams. This is a new county record. (McQueen).

FOREST AND SHADE TREES

INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - KENTUCKY - Infested about 3,088 trees at 99 separate locations (averaged 31 trees per location) on privately owned lands in Whitley County week ending January 23, 1976. (Matuszewski).

PINE NEEDLE SCALE (Chionaspis pinifoliae) - FLORIDA - All stages heavily infested 60 percent of 10 Pinus sylvestris (Scotch pine) at nursery in Jasper, Hamilton County, December 30, 1975. Collected by A.E. Graham and C.H. Webb. Determined by G.W. Dekle. This is a new county record. (FL Coop. Sur.).

OBSCURE SCALE (Melanaspis obscura) - ALABAMA - Heavy on 5 of 25 large oaks along university streets in Lee County week ending January 2, 1976. Increased infestation past 5-10 years destroyed many branches. (McQueen).

AN ARMORED SCALE (Diaspidiotus liquidambaris) - ALABAMA - Collected on Liquidambar styraciflua at Benevola, Pickens County, November 15, 1975, by L. Craft. Determined by M.L. Williams. This is a new county record. (McQueen).

MAN AND ANIMALS

INSECTS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Up to 3 (averaged 19) per head on cows and 0-5 (averaged 22) on yearlings in Payne County week ending December 26, 1975. Up to 43 per head (averaged 21) on Payne County cattle week ending January 9, 1976. (OK Coop. Sur.). KENTUCKY - Larvae averaged 0.96 per animal in backs of Holstein dairy cows of various ages in Fayette County week ending January 23, 1976. (Barnett).

FACE FLY (Musca autumnalis) - ALABAMA - Adults very heavy in attic of residence at Mt. Hope, Lawrence County, November 28, 1975; treatments applied. Collected by R.E. Deese. Determined by R.J. Gagne. This is a new county record. (McQueen).

A MOSQUITO (Aedes infirmatus) - MARYLAND - Larva taken near Pinehurst, Anne Arundel County, October 9, 1975, and reared. Collected by S.R. Joseph and W.E. Bickley. This is a new county record. (U. Md., Ent. Dept.).

SHORTNOSED CATTLE LOUSE (Haematopinus eurysternus) - OKLAHOMA - Mostly this species moderate to heavy on Comanche County cattle week ending January 16, 1976. Light in Haskell and Garvin Counties. Mostly this species moderate to heavy on Comanche County cattle and moderate in Jackson County week ending January 23. (OK Coop. Sur.). TEXAS - This species moderate on beef cattle in Brewster and Jeff Davis Counties week ending January 23, 1976. (Neeb).

HOG LOUSE (*Haematopinus suis*) - OKLAHOMA - Heavy on Jackson County hogs week ending January 23, 1976. (OK Coop. Sur.)

EAR TICK (*Otobius megnini*) - ARKANSAS - Taken from ears of cattle near Booneville, Logan County, December 6, 1975. Collected by R. Johnson. Determined by E.P. Rouse. Collected from ears of cattle near Van Buren, Crawford County, December 18, 1975, by E.H. Pritchett. Determined by B.F. Jones and E.P. Rouse. These are new county records. (Boyer). OKLAHOMA - Moderate to heavy in ears of Comanche County cattle week ending January 2, 1976. (OK Coop. Sur.)

MISCELLANEOUS WILD PLANTS

INSECTS

AN APHID (*Dactynotus richardsi*) - UTAH - Taken on *Grindelia squarrosa* (gumweed) in Wellsville Canyon, Cache County, September 28, 1973. Collected by G.F. Knowlton. Determined by A.G. Robinson. This is a new State record. (Knowlton).

BENEFICIAL ORGANISMS AND THEIR ENEMIES

INSECTS

A SPHECID WASP (*Ammophila centralis* Cameron) - TEXAS - Specimens collected at Brownsville, Cameron County, by J.E. Gillaspay October 1972 and October 1974. Determined by A. Menke. This is a new United States record. These wasps have probably been there for some time but only recently collected. Known to occur in Central America. Recorded erroneously for Arizona in Muesebeck, C.F.W., Krombein, K.V., Townes, H.K. et al. 1951. Hymenoptera of America North of Mexico. U.S. Government Printing Office. Washington, D.C. 1420 pp. (PPQ).

AN ICHNEUMONID WASP (*Bathyplectes curculionis*) - INDIANA - Swept from alfalfa north of New Washington, Clark County, April 20, 1972, and south of Otterbein, Warren County, June 12, 1972. Collected by R.W. Meyer. Determined by A.R. Provonsha. These are new county records. (Meyer).

A BRACONID WASP (*Meteorus versicolor*) - NEW YORK - Reared from *Stilpnotia salicis* (satin moth) larvae collected in Clinton and Essex Counties by C. Kolodzey June 1975. Determined by P.M. Marsh. (Birmingham). Well established on satin moth in New England. (Marsh).

A GREEN LACEWING (*Chrysopa quadripunctata*) - MARYLAND - Taken at a light near Clear Spring, Washington County, June 7, 1975. Collected and determined by W.E. Bickley. This is a new county record. (U. Md., Ent. Dept.).

FEDERAL AND STATE PROGRAMS

INSECTS

JAPANESE BEETLE (*Popillia japonica*) - GEORGIA - Two adults trapped at Villanow, Walker County, by M. Dekich August 27, 1975. Determined by R.D. Gordon. This is a first find for this county. (PPQ).

MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) - CALIFORNIA - No additional wild adults or larvae found in Los Angeles County from November 18, 1975, to January 30, 1976. Total of 188,570,000 sterile pupae and adults released to January 28 in 100-square-mile area. (PPQ). See CORRECTIONS.

SCREWORM (*Cochliomyia hominivorax*) - Total of 624 cases reported from continental U.S. during November 23-29, 1975, and December 7, 1975, to January 17, 1976, as follows: Texas 617, Arizona 7. Total of 2,111 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 1,152 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 729,902,400 as follows: Texas 705,179,400; New Mexico 360,000; Arizona 24,363,000. Total of 342,522,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

TULIPTREE SCALE (*Toumeyella liriodendri*) - CALIFORNIA - Infested 8 trees to January 23, 1976, at Sonoma, Sonoma County. All infested trees on 3 adjacent blocks. Treatment began January 14, 1976, and will include the 3 infested blocks and 11 buffer blocks. Total of 99 trees on 76 properties in treatment zone. All known hosts at Sonoma outside treatment zone to be inspected during treatment. (CA Coop. Rpt.)

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

FEBRUARY 1976

The National Weather Service's 30-day outlook for February is for temperatures to average above seasonal normals over the north-western quarter of the Nation and in the far Southwest. Below normal averages are indicated for the Southeast and from the Great Lakes to the northern Appalachian Mountains. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median amount over the eastern third of the country and from the northern Great Plains to the Great Lakes. Elsewhere less than the median amount is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

HAWAII PEST REPORT

General Vegetables - Damage by LEAFMINER FLIES (Liriomyza spp.) heavy in 0.5 acre of cucumbers at Waimanalo, Oahu, week ending December 26, 1975. Mined 50-60 percent of nearly every leaf surface. Few mines or oviposition sites on younger leaves. Infestations and damage light to moderate in 3+ acres of green onions, 0.25 acre of togan squash, and 0.25 acre of tomato at Waianae, Oahu, week ending January 2, 1976. Ranged 2-3 per leaf on 10-30 percent of green onion leaves. Destroyed about 10 percent of infested tomato and togan leaves. Moderate to heavy in at least 2 acres of snap beans at Waianae. About 30-50 percent of leaf area destroyed; 60-70 percent of leaves infested. Infestations this heavy unusual for time of year. Light to moderate in 1-2 acres of snap beans at Waimanalo and in 1-2 acres of Manoa lettuce at Koko Head, Oahu, week ending January 23. About 70 percent of bean leaves infested; mines ranged 4-6 per leaf. Only older lettuce leaves infested, no more than 3 mines per infested leaf noted. (Mau et al.). BEAN FLY (Ophiomyia phaseoli) damage light to moderate in bush bean planting at Waiahole, Oahu, week ending January 9, 1976.

DIAMONDBACK MOTH (Plutella xylostella) moderate to heavy in backyard plantings of mustard cabbage and daikon at Waianae. CARMINE SPIDER MITE (Tetranychus cinnabarinus) heavy on eggplant in some backyard plantings at Ewa, Oahu, week ending January 2, 1976. All stages present, 20+ per square inch with obvious webbing along leaf margins. Infestations and damage heavy in at least 2 acres of snap beans at Waianae week ending January 16. Counts 30+ per square inch of leaf; all mite stages present. Such activity unusual for time of year. TOBACCO FLEA BEETLE (Epitrix hirtipennis) damage light to moderate in at least one acre of eggplant at Pearl City, Oahu, week ending December 26, 1975. Adults light, ranged 1-2 per leaf. Damage moderate in untreated backyard eggplants at Ewa week ending January 2, 1976. Adults averaged 1-2 per leaf. TOMATO PINWORM (Keiferia lycopersicella) light to moderate in backyard tomato plantings at Ewa week ending January 2, 1976. Infested 20-30 percent of fruit; foliar infestations and damage hard to find. CORN PLANTHOPPER (Peregrinus maidis) heavy in small corn plantings at Pearl City week ending December 26, 1975; all stages present. Ranged 75-100 per whorl. MELON APHID (Aphis gossypii) heavy in untreated squash and bittermelon plantings at Pearl City week ending December 26, 1975. At least 30-50 percent of aphids parasitized. (Mau).

Fruit and Ornamentals - HAWAIIAN THRIPS (Taeniothrips hawaiiensis) infestations light to moderate in at least one acre of tuberose at Waimanalo. Ranged 2-3 per infested blossom; 20-30 percent of blossoms infested. WESTERN FLOWER THRIPS (Frankliniella occidentalis) light in 2-3 acres of tuberose week ending December 26, 1975. Ranged 2-3 per tuberose blossom with petals damaged week ending January 9, 1976. (Mau). Defoliation by KOU LEAFWORM (Ethmia nigroapicella) on 12+ kou trees (Cordia subcordata) at Keauhou, Hawaii, week ending December 26, 1975, ranged 60-80 percent on nearly all trees. Numerous larvae collected. (Tsuda et al.). OLEANDER HAWK MOTH (Deilephila nerii) larval infestations heavy in 300-foot oleander

hedge at Waianae week ending January 16, 1976. All larval stages present, damage heavy to terminals. Various stage larvae noted in roadside oleanders at Lahaina, Maui. Damage to terminals moderate to heavy. (Mau et al.). CITRUS SWALLOWTAIL (Papilio xuthus) damage moderate on backyard citrus trees at Wailua and Kahului, Maui. Damage confined to young terminal leaves, adults noted at both areas. (Miyahira).

KOA HAOLE LOOPER (Anacamptodes fragilaria) and a GEOMETRID MOTH (Semiothisa santaremaria) larvae moderate on koa haole leaflets at Round Top, Oahu; about 15-20 percent of leaflets damaged week ending January 23. (Kumashiro). CHINESE ROSE BEETLE (Adoretus sinicus) defoliation of Heliconia moderate at Keanae, Maui. Generally 25-40 percent of each leaf destroyed, only midribs of some leaves remained week ending January 23. YELLOW ROSE APHID (Acyrtosiphon porosum) moderate to heavy in backyard plantings of roses at Kapahulu, Oahu, week ending January 9, 1976. Apterae and nymphs heavy. (Mau). Moderate on roses throughout Kapahulu week ending January 23. Mainly nymphs and wingless females present, some winged females noted. Heavy on some plants with noticeable honeydew deposits. (Higa).

DETECTION

NEW UNITED STATES RECORD

INSECTS

A SPHECID WASP (Ammophila centralis Cameron) - TEXAS - Cameron County. (p. 8).

NEW STATE RECORDS

INSECTS

LEAFHOPPERS (Scaphoideus spp.) - KENTUCKY - Adult male of S. densus collected near Lexington, Fayette County, during July 25-28, 1975, in Malaise trap. Collected by P.H. Freytag. Adult male of S. incisus taken near Somerset, Pulaski County, in Malaise trap August 3-8, 1974. Collected by D.E. Barnett. Both determined by P.H. Freytag; confirmed by D.E. Barnett. (Barnett). Record of S. incisus predates new State record reported in CEIR 25(44):862, 1975. (PPQ).

An APHID (Dactynotus richardsi) - UTAH - Cache County. (p. 8).

RHODODENDRON BORER (Synanthedon rhododendri) - ALABAMA - Marshall County. (p. 6).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - INDIANA - Vanderburgh County. (p. 4).

NEW COUNTY RECORDS

INSECTS

LEAFHOPPERS (Scaphoideus spp.) - KENTUCKY - Adult male of S. minor taken in Malaise trap near Princeton, Caldwell County, June 7-11, 1973. Adult male of S. titanus taken near Spears, Jessamine County, in Malaise trap August 15-22, 1974. Collected and determined by P.H. Freytag. Confirmed by D.E. Barnett. (Barnett).

ARMORED SCALES - ALABAMA - Abgrallaspis cyanophylli and Diaspidiotus liquidambaris in Pickens (p. 7) and Velataspis dentata in Tallapoosa (p. 6).

EAR TICK (Otobius megnini) - ARKANSAS - Crawford, Logan (p. 8).

FACE FLY (Musca autumnalis) - ALABAMA - Lawrence (p. 7).

GREEDY SCALE (Hemiberlesia rapax) - ALABAMA - Greene (p. 6).

A GREEN LACEWING (Chrysopa quadripunctata) - MARYLAND - Washington (p. 8).

An ICHNEUMONID WASP (Bathyplectes curculionis) - INDIANA - Clark, Warren (p. 8).

A LEAFHOPPER (Osbornellus consors) - KENTUCKY - Morgan (p. 5).

A MOSQUITO (Aedes infirmatus) - MARYLAND - Anne Arundel (p. 7).

PINE NEEDLE SCALE (Chionaspis pinifoliae) - FLORIDA - Hamilton (p. 7).

SPOTTED ALFALFA APHID (Therioaphis maculata) - PENNSYLVANIA - Erie, Franklin, Lancaster, Washington, Wayne, Wyoming (p. 4).

CORRECTIONS

CEIR 25(43):835 - MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - The distribution given in this article was meant only to be general and not to indicate that an entire country is infested. For example, in Australia this fly is only found in a small portion of the southwestern area.

INSECT DETECTION IN THE UNITED STATES - 1975

There were 15 new United States records in the Cooperative Economic Insect Report during 1975. These include 10 species reported for the first time on the North American Continent - three in North Carolina, two each in California and Georgia, and one each in New Jersey, New York, and Utah. The one species from Hawaii is not known to occur in the continental United States. There were 106 new State distribution records of species already known to occur in the United States.

NEW UNITED STATES RECORDS

<u>Species</u>	<u>State</u>	<u>County</u>	<u>Probable Origin</u>	<u>Collected on</u>	<u>CEIR Page</u>	<u>Economic Importance</u>
Acyrtosiphon kondoi blue alfalfa aphid	California	Kern	Asia	Alfalfa	348	Economic
Allantus viennensis a sawfly	New York	Tompkins	Europe	Rubus sp.	163	Potentially economic
Aspidaphium escherichi an aphid	Utah	Utah	Europe	"moss"	424	Probably noneconomic
Brachycaudus schwartzi an aphid	California	Butte	Europe, South America	peach	350	Economic
Chaetococcus phragmitis (Marchal) 1/ a mealybug	New Jersey	Ocean	Mediterranean region	Phragmites communis	875	Probably noneconomic
Decorosiphon corynothrix Börner 1/ an aphid	North Carolina	Avery	Europe	Polytrichum commune	425	Probably noneconomic
Dinurothrips venzenyii Bagnall 2/ a thrips	Florida	Dade	South America	Weeds grasses	13	Probably noneconomic

<u>Species</u>	<u>State</u>	<u>County</u>	<u>Probable Origin</u>	<u>Collected on</u>	<u>CEIR Page</u>	<u>Economic Importance</u>
<u>Dryocosmus kuriphilus</u> <u>Yasumatsu 1/</u> chestnut gall wasp	Georgia	Peach	Asia	<u>Castanea</u> <u>mollissima</u>	693	Potentially economic
<u>Eriotremex formosanus</u> <u>(Matsumura) 1/, 5/</u> a siricid wasp	Georgia	Chatham	Asia	At large	899	Probably noneconomic
<u>Imma mylias</u> Meyrick 3/ a glyphipterigid moth	Hawaii	Oahu Island	Asia	Banana	42	Could be economic
<u>Muscaphis stammeri</u> Börner 1/ an aphid	North Carolina	Watauga	Europe	<u>Hylocomium</u> <u>brevirostre</u> , <u>H. splendens</u>	426	Probably noneconomic
<u>Nicoletia meinerti</u> Silvestri 2/ a silverfish	Ohio	Franklin	Tropics	Decaying newspapers and algae	162	Probably noneconomic
<u>Nilaparvata wolcottii</u> <u>Muir & Giffard 3/</u> a delphacid planthopper	California	Sacramento	Puerto Rico	Light trap	749	Probably noneconomic
<u>Pseudacaudella rubida</u> <u>(Börner) 1/</u> an aphid	North Carolina	Ashe	Europe	<u>Hylocomium</u> <u>splendens</u> , <u>Polytrichum</u> <u>commune</u>	427	Probably noneconomic
<u>Scaphytopius nitridus</u> <u>(DeLong) 3/</u> a leafhopper	California	Riverside	Mexico	Grapefruit	66	Economic

- 1/ First time reported from North American Continent.
2/ New United States record.
3/ Not known to occur in continental United States.
4/ Carried as Acyrthosiphon sp., caraganae or loti group. See CPPR 1(1):5.
5/ See CEIR 25(49-52):899, Georgia predates Alabama.

NEW STATE RECORDS - 1975

<u>Species</u>	<u>State</u>	<u>County</u>	<u>Collected on</u>	<u>CEIR Page</u>
<u>Acheta domesticus</u> house cricket	Wisconsin	Langlade	Kitchen refuse	279
<u>Acyrtosiphon</u> <u>kondoi</u>	Arizona	Yuma	Alfalfa	462
blue alfalfa aphid	Nevada	Clark & Nye	Alfalfa	348
	Utah	Washington	Alfalfa	722
<u>Agathis acrobasidis</u> a braconid wasp	New Mexico	Eddy	<u>Acrobasis</u> <u>nuxvorella</u>	773
<u>Agrilus aurichalceus</u> rose stem girdler	Idaho	Franklin	Raspberry	415
<u>Agromyza frontella</u> alfalfa blotch leafminer	Maryland	Caroline	Alfalfa	618
<u>Alphitobius</u> <u>diaperinus</u> lesser mealworm	Tennessee	Shelby	Flaked soybeans	320
<u>Anisococcus quercus</u> a mealybug	Arizona	Pinal	<u>Quercus</u> <u>emoryi</u>	795
<u>Anthonomus eugenii</u> pepper weevil	North Carolina	Harnett	Bell pepper	317
<u>Aonidiella taxus</u> an armored scale	Alabama	Montgomery	<u>Podocarpus</u> <u>macrophyllus</u>	351
<u>Apanteles electrae</u> a braconid wasp	New Mexico	Lincoln	<u>Hemileuca</u> <u>oliviae</u>	746
<u>Aphis ceanothi</u> an aphid	Idaho	Idaho	<u>Ceanothus</u> <u>sanguineus</u>	505
<u>Bathyplectes</u> <u>curculionis</u> an ichneumonid wasp	New Mexico	Valencia	Swept from alfalfa	875
<u>Bradysia coprophila</u> a sciarid fly	Florida	Charlotte	<u>Pinus</u> <u>palustris</u>	319
<u>Brevennia rehi</u> a mealybug	Texas	Hidalgo	<u>Panicum</u> sp.	869
<u>Callimoxys</u> <u>sanguinicollis</u> <u>sanguinicollis</u> a cerambycid beetle	New Hampshire	Hills- borough	Blacklight trap	12
<u>Camponotus sayi</u> an ant	Alabama	Marengo	Residence	395

<u>Species</u>	<u>State</u>	<u>County</u>	<u>Collected on</u>	<u>CEIR Page</u>
<u>Ceratitis capitata</u> Mediterranean fruit fly	California	Los Angeles	McPhail trap	796
<u>Cerococcus koebelei</u> a pit scale	Alabama	Clay	<u>Acer rubrum</u>	821
<u>Choristoneura</u> <u>parallela</u> a tortricid moth	Alabama	Chilton	Strawberry	415
<u>Conoderus</u> <u>amplicollis</u> gulf wireworm	Hawaii	Oahu Island	Pit trap	135
<u>Crioceris asparagi</u> asparagus beetle	Oklahoma	Tulsa	Asparagus	370
<u>Crioceris</u> <u>duodecimpunctata</u> spotted asparagus beetle	California	Sacramento	Asparagus	705
<u>Cynaues angustus</u> larger black flour beetle	Tennessee	Shelby	Flaked soybeans	320
<u>Dactynotus sonchi</u> an aphid	Hawaii	Oahu	<u>Sonchus</u> <u>oleraceus</u>	650
<u>Decorosiphon</u> <u>corynothrix</u> an aphid	Tennessee	Washington	<u>Polytrichum</u> <u>commune</u>	425
<u>Dendroctonus</u> <u>frontalis</u> southern pine beetle	Kentucky	Bell	<u>Pinus</u>	318
<u>Dynaspidiotus</u> <u>britannicus</u> holly scale	Alabama	Baldwin	<u>Caladium</u> <u>jamaicense</u>	871
<u>Dysaphis foenicula</u> an aphid	Idaho	Nez Perce	Carrots	728
<u>Eleates explanatus</u> a tenebrionid beetle	Idaho	Clearwater	<u>Fomes</u> <u>pinicola</u>	295
<u>Encarsia</u> <u>variegata</u> 5/ an aphelinid wasp	Hawaii	Oahu Island	Unknown	11
<u>Eriotremex</u> <u>formosanus</u> 6/ a siricid wasp	Alabama	Covington	Dead <u>Quercus</u>	583
	Florida	Jackson	At large	899
<u>Eucерaphis</u> <u>sitchensis</u> an aphid	Utah	Box Elder	<u>Betula</u> <u>occidentalis</u>	830

<u>Species</u>	<u>State</u>	<u>County</u>	<u>Collected on</u>	<u>CEIR Page</u>
<u>Eunyssobia echidna</u> a weevil	Maryland	Baltimore	Sugar-yeast lure trap	879
<u>Evagetus padrinus</u> <u>padrinus</u> a pompilid wasp	Hawaii	Oahu Island	Pit trap	748
<u>Forficula</u> <u>auricularia</u> European earwig	Indiana	St. Joseph	Mobile home park	746
<u>Glyphodes pyloalis</u> a pyralid moth	Alabama	Blount	Mulberry tree	830
<u>Haplothrips</u> <u>purpuratus</u> a thrips	Utah	Sanpete	<u>Atriplex</u> <u>canescens</u>	617
<u>Hermetia illucens</u> a soldier fly	New Hampshire	Merrimack	Unknown	849
<u>Hydroecia micacea</u> potato stem borer	New York	St. Lawrence	Corn	531
<u>Hygrotus medialis</u> a dytiscid beetle	Hawaii	Hawaii Island	Unknown	583
<u>Hylotrupes bajulus</u> old house borer	Kentucky	Jefferson	Wood studding	690
<u>Japananus hyalinus</u> a leafhopper	California	Fresno	Maple	668
<u>Kaloterms</u> <u>approximatus</u> a drywood termite	Georgia	Clay	Windowsill of residence	65
<u>Lasioptera vitis</u> a cecidomyiid midge	Delaware	Sussex	Grapes	467
<u>Lasius flavus</u> an ant	Utah	Uintah	<u>Rhus ovata</u> <u>debris</u>	813
<u>Lasius neoniger</u> an ant	Utah	Uintah	Beneath stone and dry horse manure	813
<u>Liothrips</u> <u>varicornis</u> a thrips	Florida	Lee	Soil around <u>Hibiscus</u> sp.	97
<u>Liriomyza</u> <u>trifoliarum</u> a leafminer fly	Virginia	Mont- gomery	Alfalfa	63

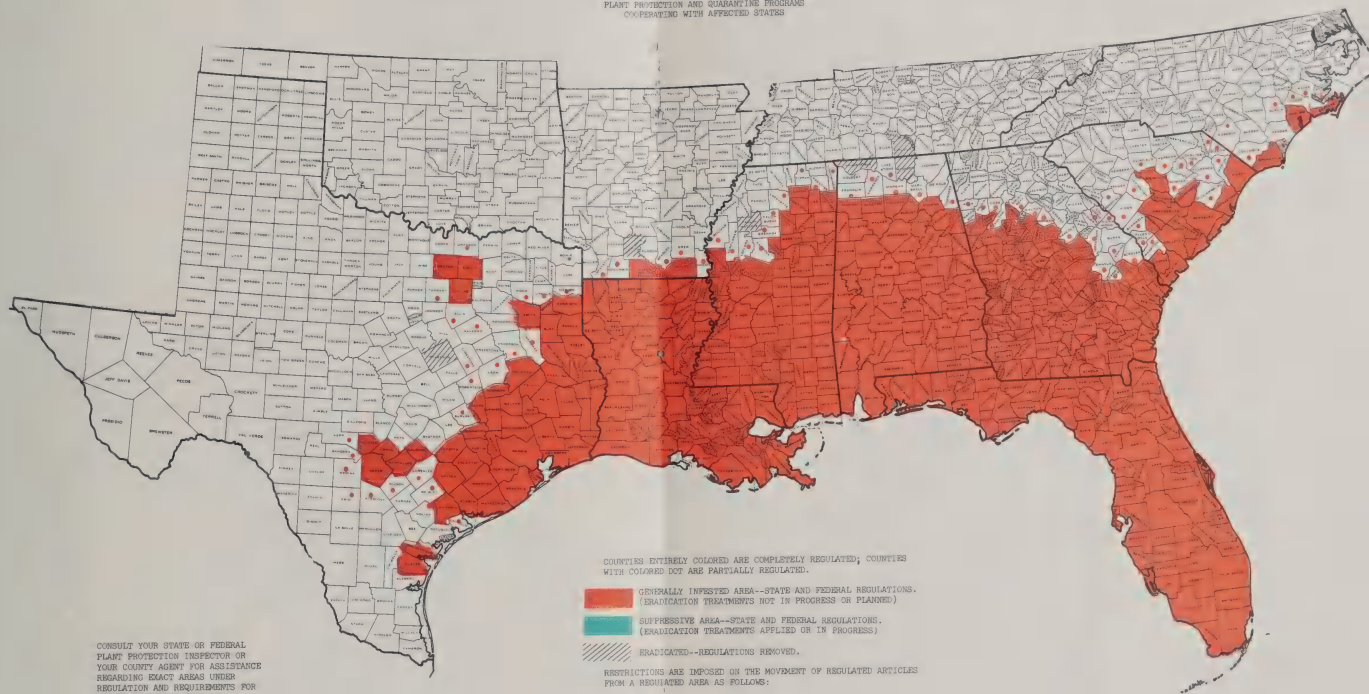
<u>Species</u>	<u>State</u>	<u>County</u>	<u>Collected on</u>	<u>CEIR Page</u>
<u>Lygocoris caryae</u> hickory plant bug	Alabama	Lee	Pecans	871
<u>Macremphytus</u> <u>tarsatus</u> a sawfly	Alabama	Tallapoosa	Probably <u>Cornus</u> spp.	873
<u>Macrotheca</u> <u>unipuncta</u> a pyralid moth	Michigan	Berrien	Probably <u>Pseudococcus</u> <u>maritimus</u>	810
<u>Magdalis</u> <u>barbicornis</u> a weevil	Pennsylvania	Montgomery	<u>Pyracantha</u> sp.	537
<u>Mesovelia amoena</u> a mesoveliid bug	Hawaii	Oahu Island	Light trap	42
<u>Microlarinus</u> <u>lareynii</u> a puncturevine seed weevil	Kansas	Barber	Puncturevine	846
<u>Microsega bella</u> a chrysidid wasp	Oklahoma	Cherokee	Unknown	136
<u>Musca autumnalis</u> face fly	Louisiana	East Carroll Parish	Cattle	759
<u>Muscaphis stammeri</u> an aphid	Idaho	Franklin	<u>Hylocomium</u> <u>brevivostre</u> , <u>Hylocomium</u> <u>splendens</u>	426
<u>Myzus ascalonicus</u> shallot aphid	Virginia	Montgomery	Chives	509
<u>Nanophyes watsoni</u> a weevil	Maryland	Worcester	<u>Arum</u> sp.	875
<u>Neolasioptera</u> <u>murtfeldtiana</u> sunflower seed midge	Oklahoma	Pottawa- tomie	sunflower heads	829
<u>Ornithodoros</u> <u>coriaceus</u> an argasid tick	Oregon	Jackson	Carbon dioxide trap	821
<u>Orthezia</u> <u>tillandsiae</u> an ortheziid scale	Alabama	Dallas	Spanish moss	268
<u>Oulema melanopus</u> cereal leaf beetle	Vermont	Bennington	Oats	626

<u>Species</u>	<u>State</u>	<u>County</u>	<u>Collected on</u>	<u>CEIR Page</u>
<u>Paratriphleps</u> <u>laeviusculus</u> an anthocorid bug	Hawaii	Oahu Island	Light trap	42
<u>Petalium schwarzi</u> an anobiid beetle	Mississippi	Harrison	Light trap	82
<u>Pheidole moerens</u> an ant	Florida	Alachua	Bait	906
<u>Phytomyza</u> <u>glabricola</u> a leafminer fly	Pennsylvania	Bucks	<u>Ilex crenata</u>	446
<u>Pseudacaudella</u> <u>rubida</u> an aphid	Tennessee	Washington	<u>Hylocomium</u> <u>splendens</u> , <u>Polytrichum</u> <u>commune</u>	427
<u>Pseudaulacaspis</u> <u>cockerelli</u> an armored scale	Tennessee	Shelby	Palm	40
<u>Psorophora howardii</u> a mosquito	Ohio	Hamilton	Light trap	294
<u>Ptinus variegatus</u> a ptinid beetle	Pennsylvania	Dauphin	Home	320
<u>Pulvinaria</u> <u>urbicola</u> a soft scale	Alabama	Baldwin	<u>Heterotheca</u> <u>subaxilaris</u>	871
<u>Scaphoideus</u> <u>angustatus</u> a leafhopper	Kentucky	Jefferson	At large	100
<u>Scaphoideus</u> <u>atlantus</u> a leafhopper	Kentucky	Fayette	Unknown	861
<u>Scaphoideus</u> <u>cinerosus</u> a leafhopper	Kentucky	Henderson	At large	100
<u>Scaphoideus crassus</u> a leafhopper	Kentucky	Jefferson	Unknown	861
<u>Scaphoideus</u> <u>curvatus</u> a leafhopper	Kentucky	Pike	Unknown	861
<u>Scaphoideus</u> <u>immistus</u> a leafhopper	Kentucky	Fayette	Unknown	323

<u>Species</u>	<u>State</u>	<u>County</u>	<u>Collected on</u>	<u>CEIR Page</u>
<u>Scaphoideus incisus</u> a leafhopper	Kentucky	Pulaski	Malaise trap	See CPPR 1(1):11
<u>Scaphoideus major</u> a leafhopper	Kentucky	Warren	Unknown	862
<u>Scaphoideus melanotus</u> a leafhopper	Kentucky	Fayette	Unknown	862
<u>Scaphoideus minor</u> a leafhopper	Kentucky	Jefferson	Unknown	862
<u>Scaphoideus ochraceus</u> a leafhopper	Kentucky	Breathitt	Unknown	862
<u>Scaphoideus opalinus</u> a leafhopper	Kentucky	Jefferson	Unknown	863
<u>Scaphoideus pullus</u> a leafhopper	Kentucky	Fayette	Elm	863
<u>Scaphoideus titanus</u> a leafhopper	Kentucky	Fayette	Unknown	863
<u>Sceptrothelys grandiclava</u> a pteromalid wasp	Wisconsin	Dane & Rock	<u>Bathyplectes curculionis</u>	625
<u>Scolytus multistriatus</u> smaller European elm bark beetle	North Dakota	Cass	Multilure pheromone sticky trap	623
<u>Scyphophorus acupunctatus</u> a weevil	Alabama	Mobile	Yucca and century plants	707
<u>Semanotus juniperi</u> a cerambycid beetle	Nevada	Lincoln	<u>Juniperus osteosperma</u>	172
<u>Semanotus ligneus</u> a cerambycid beetle	Nevada	Lincoln	<u>Juniperus osteosperma</u>	172
<u>Smicronyx commixtus</u> a weevil	Arizona	Yavapai	Blacklight trap	136
<u>Smynthuroides betae</u> an aphid	New Mexico	Chaves	Cotton	507
<u>Stenamma occidentale</u> an ant	Utah	Washington	Cottonwood and mossy debris	813

IMPORTED FIRE ANT QUARANTINES

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
COOPERATING WITH AFFECTED STATES



COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED; COUNTIES WITH COLORED DOT ARE PARTIALLY REGULATED.

- GENERALLY INFESTED AREA--STATE AND FEDERAL REGULATIONS.
(ERADICATION TREATMENTS NOT IN PROGRESS OR PLANNED)
- SUPPRESSIVE AREA--STATE AND FEDERAL REGULATIONS.
(ERADICATION TREATMENTS APPLIED OR IN PROGRESS)
- ERADICATED--REGULATIONS REMOVED.

RESTRICTIONS ARE IMPOSED ON THE MOVEMENT OF REGULATED ARTICLES FROM A REGULATED AREA AS FOLLOWS:

1. RED INTO OR THROUGH GREEN OR WHITE.
2. GREEN INTO OR THROUGH WHITE.
3. GREEN INTO GREEN.
4. GREEN WITHIN GREEN.*

*WHEN IT IS DETERMINED BY THE INSPECTOR THAT A HAZARD OF SPREAD EXISTS.

(SEE REVERSE SIDE FOR LIST OF REGULATED ARTICLES.)

CONSULT YOUR STATE OR FEDERAL PLANT PROTECTION INSPECTOR OR YOUR COUNTY AGENT FOR ASSISTANCE REGARDING EXACT AREAS UNDER REGULATION AND REQUIREMENTS FOR MOVING REGULATED ARTICLES. FOR DETAILED INFORMATION CONSULT 7 CFR 301.61 FOR QUARANTINE AND REGULATIONS.

REVISED AUGUST 8, 1975

THE FOLLOWING REGULATED ARTICLES REQUIRE A CERTIFICATE OR PERMIT
YEAR-ROUND EXCEPT AS INDICATED:

1. Soil, separately or with other things.

Soil samples shipped to approved laboratories do not require attachment of certificate or permit.*

Potting soil is exempt if commercially prepared, packaged, and shipped in original containers.

2. Plants with roots with soil attached except houseplants grown in the home and not for sale are not regulated.

3. Grass sod.

4. Hay and straw.

Hay and straw are exempt if used for packing or bedding.

5. Used mechanized soil-moving equipment.

used mechanized soil-moving equipment is exempt** if
cleaned of all loose, noncompacted soil.

6. Any other products, articles, or means of conveyance of any character whatsoever, not covered by the above, when it is determined by an inspector that they present a hazard of spread of the imported fire ant and the person in possession thereof has been so notified.

* Information as to approved laboratories may be obtained from an inspector.

** Exempt if not exposed to infestation after cleaning or other prescribed handling.

<u>Species</u>	<u>State</u>	<u>County</u>	<u>Collected on</u>	<u>CEIR Page</u>
<u>Tarsostenus</u> <u>univittatus</u> a clerid beetle	Alabama	Elmore	In wooden shoe heel	395
<u>Tetramorium</u> <u>caespitum</u> pavement ant	Utah	Salt Lake	Home	772
<u>Therioaphis</u> <u>maculata</u> spotted alfalfa aphid	Hawaii New York Pennsylvania	Oahu Island Tompkins Northamp- ton	<u>Medicago</u> <u>polymorpha</u> <u>Alfalfa</u> <u>Alfalfa</u>	628 481 659
<u>Thylodrias</u> <u>contractus</u> odd beetle	Oklahoma	Payne	Pinned insects	448
<u>Timberlakkia</u> <u>europaea</u> an encyrtid wasp	Florida	Alachua	<u>Antonina</u> <u>graminis</u>	65
<u>Toumeyella</u> <u>cerifera</u> a soft scale	Alabama	Macon	<u>Cephalanthus</u> <u>occidentalis</u>	468
<u>Tsugaspidiotus</u> <u>pseudomeyeri</u> an armored scale	Pennsylvania	Bucks	<u>Thuja</u> <u>occidentalis</u>	794
<u>Tychius prolixus</u> a weevil	Utah	Cache	<u>Astragalus</u> <u>utahensis</u>	811
<u>Tychius soltau</u> a weevil	Utah	Cache	<u>Astragalus</u> <u>cibericus</u>	811
<u>Tyrophagus</u> <u>neiswanderi</u> an acarid mite	Oregon	Umatilla	Cucumber	292
<u>Xiphydria</u> <u>maculata</u> a sawfly	Kentucky	Fayette	Sugar maple	647

6/ First report of genus in Hawaii.

U.S. Dept. Agr.
Coop. Plant Pest Rpt.
1(1):13-21, 1976

COOPERATIVE PLANT PEST REPORT
ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO
INSECTS AND RELATED ARTHROPODS - 1974

Introduction

Prior to 1966, insect loss estimates were published in the Cooperative Economic Insect Report as individual reports. An attempt has been made for the tenth year to condense loss estimates from various States into a single report. This gives a more meaningful and better overall picture of the crop losses. The data has been compiled from the crop loss estimates submitted from 15 States. The entomologists submitting the 1974 estimates are listed below.

H. F. McQueen	Alabama
W. P. Boyer	Arkansas
W. B. Tappan	Florida
R. F. L. Mau	Hawaii
T. A. Cooley	Illinois
K. O. Bell	Kansas
D. E. Barnett	Kentucky
H. G. Hoger	Minnesota
J. V. Robinson	Mississippi
J. F. Burger	New Hampshire
W. A. Iselin	New Mexico
W. J. Brandvik	North Dakota
D. C. Arnold	Oklahoma
D. D. Walgenbach	South Dakota
W. A. Allen	Virginia

Legend for pest abbreviations appears at end of loss tables.

Separates of this report are available from the New Pest Detection and Survey Staff.

U.S. Dept. Agr.
Coop. Plant Pest Rpt.
1(1-4):22-36, 1976

Insects Affecting State		Pest Complex	Total Acres Produced (1000)	Loss Per Acre (Units)	Yield Loss		Sub-total (\$1000)	Cost Per Acre (Dollars)	Control Cost		Sub-total (\$1000)	Total Loss (\$1000)
					Loss Per Acre (Dollars)	Non-treated Acres (1000)			Treated Acres (1000)			
CORN ALABAMA (grain)	SWCB, CLA CEW, FA, ECB, MB, SGB, SCsB, CB		650,000	4.60	16.33	620,000	10,124,600	2.00	30,000	60,000		10,184,600
		(Bushel)										
	Aw	10,010,000	4.15	12.45	2,000	24,900	4.00	13,200	52,800		77,700	
	Bcw	10,010,000	7.47	22.41	5,000	112,050	8.00	56,800	454,400		566,450	
	CFB	10,010,000	4.15	12.45	20,000	249,000	4.00	84,300	3,372,000		3,621,000	
	CLA	10,010,000	8.30	24.90	10,000	249,000	5.00	201,000	1,005,000		1,254,000	
	CR(adults)	10,010,000	5.81	17.43	5,000	87,150	5.00	30,000	150,000		237,150	
	ECB	10,010,000	4.15	12.45	20,000	249,000	6.25	127,000	793,750		1,042,750	
	FA	10,010,000	4.15	12.45	5,000	62,250	4.50	114,000	513,000		575,250	
	Gr	10,010,000	3.32	9.96	1,000	9,960	4.50	10,900	43,600		53,560	
Soil Insects	10,010,000	5.81	7.43	10,000	174,300	4.05	6,014,300	24,357,915		24,532,215		
KANSAS (ears) (whorls)	CB	1,730,000	3.80	13.11	9,750	127,823	3.50	3,400	11,900		139,723	
	CEW, FA	1,730,000	-	-	-	4,262,882*	3.50	14,800	51,800		4,314,682	
	CEW, FA	1,730,000	3.04	10.49	17,800	186,722	3.50	13,520	47,320		234,042	
	CLA	1,730,000	-	-	-	-	3.00	32,550	97,650		97,650	
	CR(adults)	1,730,000	3.04	10.49	10,645	111,666	3.00	128,255	384,765		496,431	
	CR(larvae)	1,730,000	12.16	41.95	70,000	4,727,190**4.00	1,038,000	1,038,000	4,152,000		8,879,190	
	Cws	1,730,000	3.80	13.11	8,630	113,139	4.00	870	3,480		116,619	
	ECB	1,730,000	-	-	-	-	3.50	5,000	17,500		17,500	
	FB	1,730,000	-	-	-	-	3.50	10,800	37,800		37,800	
	SWCB	1,730,000	7.60	26.22	92,500	2,425,350	4.00	10,000	40,000		2,465,350	
KENTUCKY	SPm	1,730,000	-	-	-	-	4.00	549,469	2,197,876		2,197,876	
	T	1,730,000	-	-	-	-	3.50	2,300	8,050		8,050	
	WBC	1,730,000	-	-	-	-	3.50	6,282	21,987		21,987	
	YsAw	1,730,000	2.28	7.87	5,200	40,924	3.50	100	350		41,274	
	ECB	1,120,000	0.45	1.43	184,236	261,400	13.25	204,064	2,703,800		2,968,300	
	MINNESOTA (grain) (sweet)	Cw, ECB, Ww, Cws, CLA, CEw, ECB, CR, CEw	5,900,000	-	-	-	18,983,307	-	-	6,267,400		25,250,707
		184,000	-	-	-	-	-	-	834,000		834,000	

*Loss based on Statewide loss survey

**Loss value of one bushel per acre on 519,000 acres added due to poor control

Insects Affecting State	Pest Complex	Total Acres Produced (1000)	Loss Per Acre (Units)	Yield Loss		Sub-total (\$1000)	Cost per Acre (Dollars)	Control Cost		Sub-total (\$1000)	Total Loss (\$1000)
				Loss Per Acre (Dollars)	Non-treated Acres (1000)			Treated Acres (1000)			
CORN (cont.)											
NEW HAMPSHIRE (field)	ECB, CEW, AWS	-	-	-	-	-	-	2.22	4,724	10,486	10,486
	ECB, CEW, AW	-	-	-	-	-	-	3.39	1,304	4,426	4,426
NORTH DAKOTA (grain)	CR, Ww, CLA, WG	149,000	2.90	10.01	20,000	200,000	4.50	30,000	135,000	437,672	437,672
SOUTH DAKOTA	CR	3,650,000	11.60	37.82	401,500	15,184,730	4.50	1,606,000	7,227,000	22,411,730	22,411,730
	Gh, Ww, CWS, ECB	3,650	3.30	10.76	73,000	785,480	4.00	109,500	438,000	1,223,480	1,223,480
VIRGINIA (Silage) (Grain)	Aw, Cws, ECB	172,000	2.65	58.30	18,747	1,092,950	6.50	63,195	410,768	1,541,211	1,541,211
	Aw, Cws, ECB	570,000	14.36	49.54	62,057	3,074,304	6.50	335,724	2,102,206	5,256,509	5,256,509
			(CWT)	Subtotal		\$69,923,077			\$58,088,029	\$120,713,698	
ALABAMA (sweet)	CEW, SGCB, BSB, FA, Ww, SCR, CLA	3,500	-	-	-	-	38.00	3,500	133,000	133,000	133,000
NORTH DAKOTA (Silage)	Ww, CR, Gh, CLA, ECB	331,000	0.28	6.16	65,000	400,000	4.00	15,000	60,000	515,650	515,650
			(ton)	Subtotal		\$400,000			\$60,000	\$515,650	
SORGHUM (Grain) ARKANSAS	SM, SMw	140,000	14.40	44.35	1,000	44,350	3.50	17,000	59,500	103,850	103,850
ILLINOIS	FA, SMw, et/al.	72,000	3.29	9.21	1,000	9,210	4.00	11,100	44,400	53,610	53,610
KANSAS	CB	3,320,000	1.60	4.93	24,000	119,306	3.50	22,900	80,150	199,456	199,456
	CEW	3,320,000	2.00	6.16	42,650	262,724	3.50	13,550	47,425	310,149	310,149
	CLA	3,320,000	-	-	-	-	3.00	145,200	435,600	435,600	435,600
	Cws	3,320,000	2.00	6.16	6,100	37,576	3.50	600	2,100	39,676	39,676
	FA	3,320,000	1.60	4.93	43,500	214,555	3.50	11,000	38,500	252,955	252,955
	Gb	3,320,000	1.60	4.93	16,100	79,373	3.00	3,000	9,000	88,373	88,373
	Gh	3,320,000	6.00	18.48	204,980	3,788,030	3.50	883,020	3,090,570	6,878,600	6,878,600
	SpM	3,320,000	-	-	-	-	4.00	12,750	51,000	51,000	51,000
T	3,320,000	-	-	-	-	3.50	5,600	19,600	19,600	19,600	

Insects Affecting State	Pest Complex	Total Acres Produced (1000)	Loss Per Acre (Units)	Loss Per Acre (Dollars)	Sub-treated Acres (1000)	Sub-total (\$1000)	Cost Per Acre (Dollars)	Treated Acres (1000)	Sub-total (\$1000)	Total Loss (\$1000)
SORGHUM(Grain cont.)										
NEW MEXICO										
	Gb, StB, FCB, SpM	220,000	6.00	18.00	15,000	270,000	6.00	135,000	810,000	1,106,250
OKLAHOMA										
	Gb, CEw, FA, SM, CLA	600,000	6.10	34.40	150,800	5,531,520	3.47	79,200	274,824	5,806,344
SOUTH DAKOTA										
	Gb, CLA	230,000	7.25	23.27	69,000	1,605,630	3.25	69,000	244,250	1,829,880
					Subtotal \$11,962,174				\$5,206,919	\$17,175,343
SMALL GRAINS										
NORTH DAKOTA										
	A, BT, Ch, Ww	2,090,000	2.40	7.92	25,000	198,000	4.00	100,000	400,000	598,000
		Subtotal \$ 198,000							\$ 400,000	\$ 598,000
OATS										
NORTH DAKOTA										
	Ch, Ww, A	1,400,000	2.60	4.29	20,000	85,800	3.50	15,000	52,500	138,300
RICE										
ARKANSAS										
	RWW	745,000	-	-	-	-	4.50	37,250	167,625	167,625
					Subtotal \$ -				\$ 167,625	\$ 167,625
RYE										
NORTH DAKOTA										
	Ch	106,000	2.10	5.57	5,000	27,850	3.50	1,000	3,500	31,350
					Subtotal \$ 27,850				\$ 3,500	\$ 31,350
SMALL GRAINS										
MINNESOTA										
	Cws, Ww	5,664,000	-	-	-	-	-	-	660,000	660,000
WHEAT										
ARKANSAS										
	AW	470,000	-	-	-	-	-	-	\$ 660,000	\$ 660,000
							3.00	33,000	99,000	99,000
ILLINOIS										
	AW	1,790,000	1.80	6.93	1,000	6,930	4.00	30,000	120,000	126,930
KANSAS										
	ACw, DMC, AW	11,600,000	2.75	11.14	800	8,912	3.50	62,100	217,350	226,262
	FA	11,600,000	-	-	-	-	3.50	140,500	491,750	491,750
	W	11,600,000	1.38	5.59	14,360	80,272	3.00	3,040	9,120	89,392
	Gb	11,600,000	1.38	5.89	250,940	1,402,755	3.00	55,660	166,980	1,569,735
	HF	11,600,000	-	-	-	26,809,420*	-	-	-	26,809,420
KENTUCKY										
	AW	390,000	3.15	11.97	35,880	429,500	3.50	3,120	10,920	440,400

*Yield loss based on statewide loss survey

Insects Affecting State	Pest Complex	Total Acres Produced (1000)	Loss Per Acre (Units)	Yield Loss		Cost Per Acre (Dollars)	Control Cost		
				Loss Per Acre (Dollars)	Non-treated Acres (1000)		Treated Acres (1000)	Sub-total (\$1000)	Total Loss (\$1000)
WHEAT (con't) NEW MEXICO	Gh, Gh, FCB	390,000	0.53	2.12	15,000	3.50	135,000	472,500	508,800
	A, WF, Gh, ACw, WSM	10,036,000	1.22	6.62	450,000	4.00	450,000	1,800,000	4,779,000
OKLAHOMA	(HRS) WSM	6,480,000	0.41	2.01	1,608,000	-	112,000	-	3,006,960
	Gh, AW, FA, ACw, BWM	6,400,000	3.60	14.22	1,080,634	3.12	564,166	1,760,198	17,126,813
SOUTH DAKOTA (spring & durum) (winter)	WSM HF, Gh, ACw, Gh	1,968,000	0.83	3.94	157,440	-	123,200	4,312,000	620,314
		880,000	8.40	40.07	52,800	3.50	-	-	2,546,896
			(Ton)		Subtotal			\$9,459,818	\$58,441,672
RANGE SOUTH DAKOTA	Gh, SW	26,000,000	0.21	10.50	100,000	-	-	-	1,050,000
		26,000,000	0.45	22.50	50,000	-	-	-	1,125,000
					Subtotal			\$	\$ 2,125,000
ALFALFA ARKANSAS	AIW	62,000	0.42	16.80	10,000	4.00	45,000	180,000	348,000
	Pol, AIW	700,000	0.31	12.40	5,000	4.50	18,500	83,250	145,250
(with clover) (with clover)	Gh, MdSg, Clw, AIW, VC, PA	700,000	0.93	37.20	100,000	5.50	191,400	1,032,700	4,772,700
		1,180,000	0.13	5.07	-	4.50	28,000	126,000	126,000
		1,180,000	0.13	5.07	-	4.50	10,300	46,350	46,350
			(Ton)						
OKLAHOMA	AIW, PA, SAA	530,000	1.24	69.34	147,764	5.54	286,836	1,589,071	11,835,027
	AIW, SAA, PA, AC	197,000	0.86	51.60	25,000	7.00	150,000	1,050,000	2,342,500
SOUTH DAKOTA	Gh, PA, AIW, FB	2,580,000	0.46	25.02	657,900	3.00	116,100	348,300	16,808,958
	AIW, PA, Slb	80,000	1.12	56.00	18,161	8.00	47,782	382,256	1,918,302
					Subtotal			\$4,857,327	\$ 38,343,087
ALFALFA (hay) KANSAS	ACW	1,070,000	-	-	-	3.50	16,250	56,875	56,875
	AIW, FA	1,070,000	0.43	21.68	269,323	6.00	811,589	4,869,534	10,708,457
		1,070,000	0.13	6.40	820	3.50	480	1,680	6,928

Insects Affecting

State	Pest Complex	Total Acres Produced (1000)	Loss per Acre (Units)		Yield Loss per Acre (Dollars)		Sub-total (\$1000)	Cost per Acre (Dollars)	Control Cost Treated Acres (1000)		Sub-total (\$1000)	Total Loss (\$1000)
			Loss per Acre (Units)	Loss per Acre (Units)	Yield Loss per Acre (Dollars)	Non-treated Acres (1000)						
ALFALFA (hay) KANSAS (cont.)	Gh	1,070,000	0.10	5.10	640		3,264	3.00	1,460	4,380	7,644	
	PA	1,070,000	0.10	5.10	32,270		164,377	3.00	5,280	15,840	180,417	
	SAA	1,070,000	0.13	6.40	4,280		27,392	3.00	5,300	15,900	43,292	
	VC	1,070,000	0.13	6.40	4,650		29,760	3.50	500	1,750	31,510	
MINNESOTA	Gh, PA, L	3,060,000	-	-	-	-	881,500	-	-	35,000	916,500	
NORTH DAKOTA	Gh, PA, AIW, PB	1,600,000	0.12	5.40	100,000		540,000	3.50	60,000	210,000	750,000	
							Subtotal \$ 7,490,664			\$5,210,959	\$12,701,623	
SOYBEANS ALABAMA	TE, VbC, CL, SGSE, ESB, BLB, CEw, LCB, MBB, SL, WfB, GrCw	1,020,000	2.40	18.24	70,000		127,680	7.00	300,000	2,100,000	2,227,680	
	CEw	4,300,000	-	-	-		-	3.50	30,000	105,000	105,000	
	GrCw	8,470,000	1.23	8.09	-		-	4.50	40,300	181,350	181,350	
	Gh	8,470,000	1.72	11.32	500		5,660	4.00	10,600	42,400	48,060	
KANSAS	CEw	1,030,000	1.60	12.24	1,300		15,812	3.00	1,500	4,500	20,412	
	CEw	1,030,000	-	-	-		-	3.50	7,500	26,250	27,330	
	GW	1,030,000	1.00	7.65	2,200		16,830	3.50	3,000	10,500	27,330	
KENTUCKY	GrCw	1,170,000	1.00	6.50	4,000		26,000	3.50	6,000	21,000	47,000	
MINNESOTA	BLB, GrCw	4,040,000	-	-	-		-	-	-	125,000	125,000	
MISSISSIPPI	BW, TB, VbC, CL, GCw, SGSE	2,525,000	1.85	12.77	50,000		638,500	1.50	700,000	1,050,000	1,763,500	
NORTH DAKOTA	Gh	179,000	0.80	6.04	20,000		120,800	3.50	20,000	70,000	31,350	
VIRGINIA	MBB, CEw, StB	430,000	4.70	35.02	*		544,806	5.00	255,850	1,278,250	1,900,841	
							Subtotal \$1,330,106			\$2,544,250	\$ 3,867,691	
PEANUTS ALABAMA	LCB, T, SCR, GCw, WfB, BrB	201,000	708.00	128.86	40,000		5,154,400	9.00	161,000	1,449,000	6,603,400	
	SPM, L, RFw, FA, AW, BA											

*Most soybean treatment cost applied prematurely

Insects Affecting State	Post Complex	Total Acres Produced (1000)	Loss Per Acre (Units)	Yield Loss Per Acre (Dollars)	Subtotal Acres (1000)	Subtotal (\$1000)	Cost Per Acre (Dollars)	Control Cost Treated Acres (1000)	Subtotal (\$1000)	Total Loss (\$1000)
PEANUTS (cont) FLORIDA	FA, VSC, CEW, LCB, BA, CWS, Ww, StB, T, RPw, TAH	55,000	281.00	59.00	*	3,245,000	24.00	55,000	1,320,000	4,895,000
OKLAHOMA	LCB, RPw, CEW	114,000	229.00	39.39	33,240	1,309,324	4.33	47,244	204,567	1,513,891
VIRGINIA	SCR, Pol, SpM	102,000	284.00	51.97	1,000	51,970	19.59	99,000	1,939,410	2,001,380
					Subtotal	\$9,760,694			\$ 4,912,977	\$ 15,013,671
COTTON ALABAMA (lint)	BW, Blw, TB, T, TPB, CA, SpM, Bw, Wf		85.80	39.21	15,000	588,150	30.00	570,000	17,110,000	17,743,000
(seed)	BW, Blw, TB T, TPB, CA, SpM, BwWf		0.07	9.07	15,000	136,050	**	570,000	**	136,050
ARKANSAS	BW, Blw, TB M, A, PB	1,200,000	25.80	13.69	75,000	1,026,750	12.00	825,000	9,900,000	11,372,500
OKLAHOMA	BW, Blw, CF	530,000	79.00	27.41	182,850	5,011,919	10.10	182,850	1,846,785	6,858,704
MISSISSIPPI	BW, Blw, TB, T, TPB	1,731,000	268.80	126.34	50,000	6,317,000	13.50	1,665,000	22,477,500	29,294,500
NEW MEXICO	PEW, Blw, PB	154,000	46.30	23.15	-	-	3.50	75,000	262,500	262,500
					Subtotal	\$13,079,869			\$51,596,785	\$49,698,554
FLAX SOUTH DAKOTA	CWS	560,000	4.20	41.16	4,760	195,922	12.00*	840	10,080	206,002
					Subtotal	\$ 195,922			\$ 10,080	\$ 206,002

*All acreage treated
**Charged to lint
***Replanting

Insects Affecting State	Pest Complex	Total Acres Produced (1000)	Loss Per Acre (Units)	Yield Loss Per Acre (Dollars)	Subtotal (Dollars)	Cost Per Acre (Dollars)	Control Cost Treated Acres (1000)	Subtotal (Dollars)	Total Loss (\$1000)
MISCELLANEOUS FIELD CROPS:									
SUNFLOWERS									
MINNESOTA	SB, SHM	181,000	-	-	-	-	-	184,500	184,500
			(lbs.)						
TOBACCO (Shade-grown)									
FLORIDA	TB, TB, Cws, FB, GPA, Ww	990	0.21	84.00	-*	83,160	990*	96,030	262,350
					Subtotal	\$ 83,160		\$ 96,030	\$262,350
(flue-cured)	TB, TB, Cws, FB, GPA, Ww, CL	12,900	1.56	163.00	-*	2,102,700	12,900*	451,500	2,716,095
			(Tons)		Subtotal	\$2,102,700		\$451,500	\$2,716,095
SUGARBEETS									
MINNESOTA	WBW, Cws								
	SB, Ww, Gh	184,000	-	-	-	576,000	-	-	576,000
NORTH DAKOTA	SB, Ww, FB, Cws, Gh	138,500	0.92	50.60	2,000	101,200	58,000	333,500	434,700
					Subtotal	\$ 677,200		333,500	\$1,010,700
SUNFLOWERS									
NORTH DAKOTA	SB, Gh, Cws, Ww, Stg, Stw	366,000	48.00	7.69	5,000	38,450	75,000	262,500	300,950
	SUM, Gh	88,300	148.80	25.97	11,037	286,631	11,038	38,633	325,264
			(Cwt)		Subtotal	\$ 325,081		\$485,633	\$ 810,714
POTATOES									
ALABAMA	Ww, A, PFB, PoL, CPB, WFB	23,000	-	-	-	-	23,000	230,000	230,000
MINNESOTA	PFB, CPB, Ww, PoL, A, Cws	93,500	-	-	-	62,080	-	930,000	942,080
NEW HAMPSHIRE	A, CPB, L, FB	-	-	-	-	-	460	2,191	2,191
NORTH DAKOTA	FB, L, CPB, Ww	135,000	5.10	17.34	15,000	260,100	120,000	408,000	668,100
					Subtotal	\$ 322,180		\$1,570,191	\$1,892,371

*All acreage treated

Insects Affecting State	Pest Complex	Total Acres Produced (1000)	Loss Per Acre (Units) (Cwt.)	Yield Loss		Sub-total (\$1000)	Cost Per Acre (Dollars)	Control Cost		Sub-total (\$1000)	Total Loss (\$1000)
				Loss Per Acre (Dollars)	Non-Treated Acres (1000)			Treated Acres (1000)	Total		
TOMATOES ALABAMA	TPW, FB, A, CL, LmF, SpM, TPW, WfB, L	9,300	-	-	-	-	60.00	9,300	\$558,000	\$558,000	
	TF	3,000	-	-	-	-	52.00	2,500	130,000	130,000	
ARKANSAS			(lbs.)								
HAWAII	TPW, SrLm, GhWf, FFF	160	5,000	1,060	-	169,600	3.50	160	56,000	225,600	
			(Cwt.)		Subtotal	\$169,600			\$744,000	\$913,600	
SNAP BEANS ALABAMA	MBB, BLE, CEW, SpM, LCB, T, SCR	1,500	-	-	-	-	16.00	1,500	24,000	24,000	
	SrLm, GhWf, CSpM, BF	110	25	1,043	-	114,734	407.68	110	44,845	159,579	
PEAS (for processing) MINNESOTA	PA, CL	69,500	-	-	-	-	-	-	130,000*	130,000	
			(lbs.)		Subtotal	-			\$130,000	\$130,000	
COLE CROPS: CABBAGE (Head) HAWAII	DM, IC, CL	430	2,300	197.80	-	85,054	445.00	430	191,350	276,404	
					Subtotal	\$ 85,054			\$191,350	\$276,404	
CUCURBITS WATERMELON HAWAII	SrLm, SpM, FFF, A	220	11,505	1,162	-	255,640	110.00	220	24,200	279,840	
					Subtotal	\$255,640			\$ 24,200	\$279,840	
GENERAL VEGETABLES NEW HAMPSHIRE	CL, GPA, Pol., MBB, CW	-	-	-	-	-	9.71	2,000	19,421	19,421	
					Subtotal	-			\$ 19,421	\$ 19,421	

*\$52,000 spent to prevent loopers in pea pack

Insects Affecting State	Pest Complex	Total Acres Produced (1000)	Loss per Acre (Units) (Cwt.)	Yield Loss		Sub-total (\$1000)	Control Cost		Total Loss (\$1000)
				Loss per Acre (dollars) (1000)	Non-treated Acres (1000)		Cost per Acre (Dollars)	Treated Acres (1000)	
SWEET POTATOES ALABAMA	Wp, PB, SpW, WG, WFB, GCw, YsAw	5,500	-	-	-	-	10.00	5,500	55,000
				Subtotal		-		\$ 55,000	\$ 55,000
GREEN ONIONS HAWAII	SLm, BA, lM, OT	100	1,845	535.05	-	53,505	305.98	100	30,598
					Subtotal	\$ 53,505		\$ 30,598	\$ 84,103
DECIDUOUS FRUITS APPLES ARKANSAS	CUM, M, RAA, PC, Lr	1,600*	-	-	1,600	-	70.00	-	112,000
MINNESOTA NEW HAMPSHIRE	AM, CdW, PC, M, Lr	3,200	-	-	-	-	-	-	560,000
VIRGINIA PEACHES ALABAMA	TPB, PC, AM, Lr	5,000	-	242.00	-	1,210,000	17.86	4,959	88,548
ARKANSAS	CdW, M, A, AM	39,500	-	-	-	-	60.50	-	39,500
				Subtotal		\$1,210,000	(Tree)	\$ 688,160	\$ 2,010,045
DECIDUOUS NUTS PECANS ALABAMA	PC, PUB, LPTB, SJS, WPS, SpW, OFW	9,000,000	-	-	-	-	0.35	650,000	227,500
ARKANSAS	OFW, TPB, SB, PC, Sc, PtB	3,500	-	-	-	-	45.00	3,500	157,500
				Subtotal		(Trees)	(Tree)	\$ 385,000	\$ 385,000
OTHER TROP. AND SUBTROP. FRUIT PASSION FRUIT HAWAII	HS, A, BPA, PeW, PNC, STB, SpM, PLC, PLP, PeP, OS	925,000		3.00	775,000	\$2,325,000	10.00	150,000	7,700,000
					Subtotal	\$2,325,000		\$1,500,000	\$ 7,700,000
HAWAII	BM, CSPM, Mb, BSC	280	660	40.92	-	-	100.00	280	28,000
				Subtotal		-		\$ 28,000	\$ 39,458

*Estimated

Insects Affecting

State	Pest Complex	Acres Produced (1000)	Per Acre (Units) (Lbs)	Per Acre (Dollars)	Acres treated (1000)	Sub-total (\$1000)	Per Acre (Dollars)	Acres treated (1000)	Sub-total (\$1000)	Total Loss (\$1000)
MACADAMIA NUTS (in shell)	BM, T, A	5,080	264	63.36	2,901	183,807	8.25	2,179	17,977	201,784
					Subtotal	\$183,807	(Units)		\$17,977	\$201,784
ORNAMENTAL (and turf)	TS, SJS, SPW, WF, P+B, LPTH, CB, A, CS, SN, BqW, ELB, BDR, ABS, ALB, SB, TS, WIE, MW, WPS, NPTN, SPB	1,200,000	-	-	-	-	4.00	1,200,000	-	4,800,000
NEW HAMPSHIRE	JB, CB, MB, PS	-	-	-	-	-	4.37	5,000	21,831	21,831
				Subtotal		-			\$21,831	\$4,821,831
HOUSEHOLD AND STRUCTURES ALABAMA	Cor, Mo, CF, DF, CIB, SGB, SqGB, Hf, Sfs, CrB MM, TI, Tm, An	1,050,000	-	-	-	-	6.00	1,050,000	6,300,000	6,300,000
ARKANSAS	Tm	-	-	-	-	-	-	-	-	2,600,000*
KENTUCKY	Cor	-	-	-	-	-	1.17	170,269	270,000	270,000
				Subtotal		-			\$6,570,000	\$9,170,000
HOUSEHOLD KENTUCKY	AnS	-	-	-	-	-	1.17	35,850	45,950	45,950
				Subtotal		-			\$45,950	45,950
WOODSTRUCTURES KENTUCKY	Tm	-	-	-	5,000	-	202.50	20,000	4,050,000	5,062,500
				Subtotal		-			\$4,050,000	\$5,062,500
SMALL FRUITS BLUEBERRIES NEW HAMPSHIRE	BIM, CFW	-	-	-	-	-	0.62	1,686	1,043	1,043
				Subtotal		-			\$1,043	1,043
ARKANSAS	GBM, GS	2,900	-	-	-	-	42.00	2,900	121,800	121,800
NEW HAMPSHIRE	RC, JB	-	-	-	-	-	2.53	61	155	155
				Subtotal		\$-			121,955	\$121,955

*Estimated

Insects Affecting State	Pest Complex	Total Acres Produced (1000)	Loss per Acre (Units)	Loss per Acre (Dollars)	Yield Loss Acres (1000)	Non-treated Acres (1000)	Sub-total (\$1000)	Cost Per Acre (Dollars)	Treated Acres (1000)	Sub-total (\$1000)	Total Loss (\$1000)
SMALL FRUITS (cont)											
RASPBERRIES, BLACKBERRIES											
NEW HAMPSHIRE											
	TPW, StW	-	-	-	-	-	-	5.45	137	746	746
STRAWBERRIES											
NEW HAMPSHIRE											
	TPW, StW, CyM	-	-	-	-	-	-	0.51	61	31	31
FOREST											
ALABAMA											
	ETC, BTB, SPB, AB, SPS, RbPs, NPTN, FTC	21,709,000	-	-	-	-	5,400,000	-	-	-	-
NEW HAMPSHIRE											
	BS, BTA, FW	-	-	-	-	-	Subtotal \$5,400,000	4.76	4,238	20,175	20,175
MAN AND ANIMALS											
CATTLE (ALL)											
NORTH DAKOTA											
	HoF, CaG, Li, SF, FF, Mo	2,500,000	25	7.50	500,000	3,750,000	0.59	1,500,000	-	750,000	4,500,000
BEEF CATTLE											
ALABAMA											
(Brood & Breeding)											
	HoF, Li, CaG, TF, FF, Ti, Mo, Bf	2,109,000	104	29.54	300,000	8,862,000	4.00	1,809,000	\$ 7,286,000	\$16,098,000	\$16,098,000
ALABAMA											
(Cattle Calves Sold)											
	HoF, Li, CCG, SF, Hf, TF, Ti, Mo, Bf	1,140,000	66	18.18	300,000	5,454,000	3.25	840,000	2,750,000	2,750,000	2,750,000
MISSISSIPPI											
	HoF, CCG, FF, CaL, Ti, Hrf	3,000,000	-	-	1,000,000	12,000,000	2.59	2,000,000	5,000,000	22,000,000	22,000,000
OKLAHOMA											
	HoF, CCG, CaL, FF, Ti, Hrf	2,415,000	125	47.63	2,199,600	38,924,951	2.23	3,910,400	8,720,192	47,645,142	47,645,142
CATTLE AND CALVES											
ARKANSAS											
	Li, Mu, HoF, LST	2,589,000	-	12.50	500,000	-	-	0.12	1,200,000	144,000	\$ 144,000
		2,589,000	12.50	12.50	1,389,000	17,362,500	-	1.10	1,200,000	1,320,000	6,250,000
		2,589,000	12.50	12.50	1,389,000	17,362,500	-	1.10	1,200,000	1,320,000	18,682,500
		-	-	-	Subtotal \$17,362,500	-	-	-	-	\$ 1,464,000	\$25,976,500

Insects Affecting State	Pest Complex	Total Acres Produced (1000)	Loss Per Acre (Units)	Yield Loss per Acre (Dollars)	Non-treated Acres (1000)	Sub-total (\$1000)	Control Cost		Total Loss (\$1000)			
							Cost Per Acre (dollars)	Treated Acres (1000)				
DAIRY COWS ALABAMA (Calves included)	HoF, SF, CCG, LI, FF, Mo, Bf, TF, TI	175,000	1.121	112.66	10,000	1,126,000	3.00	165,030	495,000	1,621,000		
		Subtotal \$1,126,000							\$ 495,000	\$ 1,621,000		
		ARKANSAS	HF, HoF	91,000	4.62	41.90	31,000	1,298,000	5.00	60,000	300,000	1,598,000
				Subtotal \$1,298,000							\$ 300,000	\$ 1,598,000
OKLAHOMA	HoF, Cal, TI, CCG, FF, Hrf, SF	1,137,000,000	7.30	64.61	15,314	989,438	3.00	102,486	307,458	1,296,896		
		Subtotal \$ 989,438							\$ 307,458	\$ 1,296,896		
		LAYING HENS ALABAMA	Hf, DB, M, Li	12,900,000	-	-	-	-	0.12	12,743,000	1,529,160	1,529,160
				16,000,000	-	-	-	90,000	-	6,000,000	-	90,000
BROILERS ALABAMA	Hf, DB, M, Li	398,000,000	-	-	-	90,000		\$ 1,529,160	\$ 1,619,160			
		Subtotal \$ 90,000							\$ 1,529,000,000	\$11,940,000	\$11,940,000	
		Subtotal -							\$11,940,000	\$11,940,000		
		HOGS ALABAMA	Hf, HL, M	659,000	21.42	7.33	539,000	3,950,000	1.50	1,000,000	1,500,000	5,450,000
ARKANSAS	Li			467,000	-	4.22	160,000	675,200	0.15	40,000	6,000	681,200
				Subtotal \$4,625,200							\$ 5,506,000	\$ 6,131,200

*actual control cost \$9.015

LEGEND

An	-	Ants	CEB	-	Corn Flea Beetle	HS	-	Hickory Shuckworm
Ab	-	Abrus	CF	-	Cotton Flea Beetle	HC	-	Imported Cabbageworm
AB	-	Abresia Beetle	CL	-	Cabbage Maggot	JB	-	Japanese Beetle
AC	-	Alfalfa Caterpillar	CM	-	Cabbage Maggot	LCB	-	Lesser Cornstalk Borer
ACW	-	Army Cutworm	CLB	-	Carpal Beetle	L'	-	Lice
AL	-	Aster Leafhopper	CLW	-	Corn Leaf Aphid	LMF	-	Leafminer Flies
AlW	-	Alfalfa Webworm	Cor	-	Cockroaches	LW	-	Leek Moth
AM	-	Alfalfa Weevil	CPB	-	Colorado Potato Beetle	LPTB	-	Lesser Peachtree Borer
ABS	-	Apple Maggot	CR	-	Corn Rootworms	L'j	-	Lone Star Tick
ALB	-	Azalea Bark Scale	CSPM	-	Carmine Spider Mite	M	-	Mites
Aw	-	Azalea Lace Bug	CFW	-	Cranberry Fruit Worm	MdSg	-	Meadow Spittlebug
BTA	-	Balsam Twig Aphid	Cws	-	Cutworms	Mb	-	Mealybug
BT	-	Barley Thrips	Cym	-	Cyclamen Mite	MB	-	Maize Billbug
BA	-	Beet Armyworm	DB	-	Darling Beetles	MM	-	Meal Moth
BgW	-	Begworm	DM	-	Diamondback Moth	MMB	-	Mexican Bean Beetle
BF	-	Bran Fly	DF	-	Dog Flea	MW	-	Mimosa Webworm
Blackf	-	Blackflies	ECB	-	European Corn Borer	Mo	-	Mosquitoes
BLB	-	Black Beetle	ECB	-	European Corn Borer	MTM	-	Nantucket Pine Tip Moth
BCW	-	Black Cutworm	ETC	-	Emerald Green Caterpillar	NTM	-	Northern Fowl Mite
BPA	-	Black Pecan Aphid	ECB	-	Fall Armyworm	OT	-	Olethreutid Moth
BLM	-	Blueberry Maggot	FA	-	Fall Armyworm	OFM	-	Olethreutid Moth
BlW	-	Bollworm	FW	-	Flea Beetles	OS	-	Obscure Scale
BN	-	Broad Mite	FB	-	Fruit Fly	PA	-	Pea Aphid
BSc	-	Barnacle Scale	FrF	-	Fruit Fly	PB	-	Plant Bugs
BS	-	Beech Scale	FF	-	Face Fly	PBw	-	Pink Bollworm
BSB	-	Brown Stink Bug	FS	-	Fletcher Scale	PC	-	Plum Curculio
BTB	-	Black Turpentine Beetle	FTC	-	Forest Tent Caterpillar	PCW	-	Pecan Weevil
BW	-	Boll Weevil	GCW	-	Granulate Cutworm	PFB	-	Potato Flea Beetle
BWM	-	Brown Wheat Mite	GBM	-	Grape Berry Moth	PL	-	Potato Leafhopper
BYB	-	Burrowing Bugs	Gb	-	Greenbug	PLP	-	Pecan Leaf Phylloxera
CS	-	Cotton Aphid	GS	-	Grape Scale	PLC	-	Pecan Leaf Casebearer
CaG	-	Caneville Scale	GnCw	-	Green Cloveworm	PMB	-	Pecan Nut Casebearer
CaL	-	Cattle Lice	GHW	-	Greenhouse Whitefly	PMB	-	Pecan Nut Casebearer
CB	-	Chinch Bug	GPA	-	Green Peach Aphid	PWC	-	Pale Western Cutworm
CF	-	Cat Flea	HF	-	Hessian Fly	RC	-	Rose Chafer
CiB	-	Cigarette Beetle	Hf	-	House Fly	RAA	-	Rosy Apple Aphid
COG	-	Common Cattle Grub	HL	-	Hog Louse	RhPS	-	Redheaded Pine Sawfly
CdM	-	Codling Moth	HoF	-	Horn Fly	RPw	-	Rednecked Peanutworm
CEW	-	Corn Earworm	HRF	-	Horse Fly	RWW	-	Rice Water Weevil

LEGEND
(Con't)

SAA	-	Spotted Alfalfa Aphid	TS	-	Twoined Spittlebug
Sa	-	Stalk Borer	Vbc	-	Velvetbean Caterpillar
Sc	-	Scapes	VC	-	Variegated Cutworm
ScM	-	Serpentine Leafminer	WBC	-	Western Bean Cutworm
SCR	-	Sorghum Rootworm	Wbw	-	Webworms
SCSB	-	Southern Cornstalk Borer	WIB	-	Whitefringed Beetles
SCB	-	Sawtoothed Grain Beetle	WG	-	White Grubs
SF	-	Stable Fly	WGS	-	White Peach Scale
Sfs	-	Silverfish	WSM	-	Wheat Stem Maggot
SFB	-	Sunflower Beetle	Ww	-	Wireworms
SfMg	-	Sunflower Maggot	YaAw	-	Yellowstriped Armyworm
SfM	-	Sunflower Moth			
SGSB	-	Southern Green Stink Bug			
SJS	-	San Jose Scale			
SW	-	Sod Webworm			
SL	-	Soybean Looper			
Sls	-	Spittlebugs			
SLB	-	Squarenecked Grain Beetle			
SM	-	Sorghum Midge			
SPw	-	Sorghum Pine Beetle			
SPM	-	Spider Mite			
SPS	-	Southern Pine Sawyer			
StW	-	Strawberry Weevil			
SpW	-	Sweetpotato Weevil			
StB	-	Stink Bugs			
SBRM	-	Sugar Beet Root Maggot			
SHM	-	Sunflower Head Moth			
SuM	-	Sunflower Moth			
SwCB	-	Southwestern Corn Borer			
Sw	-	Sorghum Webworm			
TS	-	Tea Scale			
TH	-	Thrips			
THH	-	Threecornered Alfalfa Hopper			
TR	-	Tobacco Budworm			
TbB	-	Tobacco Hornworm			
TF	-	Tahmid Flies			
Tim	-	Tomatoes			
TFw	-	Tomato Fruitworm			
Ti	-	Ticks			
TPB	-	Tarnished Plant Bug			
TPw	-	Tomato Pinworm			

WEATHER OF THE WEEK ENDING JANUARY 25

Reprinted from the Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Sharply contrasting temperatures highlighted national weather patterns during the week. A frigid blast of air drove temperatures in the Northeast as low as 10 degrees below normal and in some cases, to record low levels. Widespread blowing and drifting snow trailed a series of cold fronts cutting across New England. Meantime unseasonably warm conditions favored the Mississippi Valley and Plains, where some spots even warmed into the 70's.

TEMPERATURE AND PRECIPITATION: Fixed beneath a giant high pressure system, some of the coldest weather of the winter gripped the Appalachians and Atlantic Coast States on Monday morning. The mercury nosedived to near zero as far south as southwest Virginia, where Roanoke, -4 degrees, reported a new record low. Chilly morning readings in Florida included Jacksonville, 27 degrees and Orlando, 32 degrees. In northeast New York State a reading of -33 degrees pegged Massena as the Nation's cold spot. During the day two cold fronts spread light precipitation across the Midwest. Associated with one front, snow reached from Michigan and eastern Wisconsin into northern Missouri, and rain extended from southern Missouri into eastern Oklahoma. Elsewhere snow occurred along the other front from Minnesota into northeast Nebraska. Clear skies kept afternoon temperatures chilly along the Atlantic Coast. Midday readings ranged from near zero in northern New England to 60's in southern Florida. Meanwhile, as colder air slid southward through the northern Plains, the mercury dipped as much as 20 degrees in parts of South Dakota. Mild western weather included temperatures from the 30's in the North to 70's in the South. Ahead of the cold front, Tuesday morning precipitation stretched from southern Texas to the lower Great Lakes region. Snow-slicked roads challenged travelers from eastern Missouri through the Ohio Valley. Ahead of the front, rain appeared across much of Arkansas and northern Louisiana into the south-central Texas. In the Northeast up to 2 inches of accumulated snow made area highways slippery. Evening rainshowers dotted the central and western Gulf Coast and extended into the lower Appalachians. In colder areas snow showers spread along the northern Atlantic Coast, throughout the Northeast, from the Great Lakes States into northern Plains. Snow in the Great Lakes region and Ohio Valley dominated Wednesday's precipitation pattern, as cold air moving over warm waters gave rise to heavy snowfall near the lakeshores. Morning temperatures returned to seasonal levels in much of the East and remained mild over the Rockies and most of the Plains. Sweeping across northeast U.S. on Wednesday, another in a series of cold fronts produced snow throughout the Great Lakes region, eastern Ohio Valley, and upper Appalachians. In Ohio an extra inch of snow at Akron put it over the previous record snowfall for January. As a storm system intensified in southeast Canada, much of New England braced for heavy snow and plunging temperatures. Patches of dense fog sharply reduced visibilities over much of Alabama and reached into eastern Mississippi. In the Northwest fog kept visibilities at near zero from Washington and Oregon into Utah and Idaho. A strong

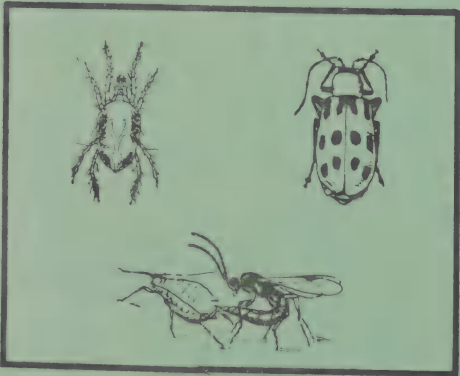
northerly flow of air whistled across the lower Great Lakes region on Thursday, producing locally heavy snow squalls from the snowbelts of New York State to southeast of Lakes Erie and Ontario. Blowing snow resulted in near blizzard conditions. In the Northwest rain along the Pacific Coast--from a Pacific cold front entering the Nation--turned to snow inland over the Mountains. Bitter cold evening temperatures settled over areas east of the Great Lakes region through New England. By 7 p.m. the mercury had plummeted to -10 degrees and -15 degrees. Winds gusting to 60 m.p.h. added to the icy chill in southern New England. Early Friday morning the mercury froze at only -20 degrees in northern Michigan and northeast New York. Snow depths up to 3 feet locally and gusts to nearly 60 m.p.h. also plagued these areas. Widespread blowing and drifting snow cut visibilities to near zero. In some areas strong winds and cold temperatures drove the chill factor as low as -55 degrees. While it was unseasonably cold in the Northeast, afternoon temperatures ranged 15 to 25 degrees above normal over the Mississippi Valley and Great Plains. Over the weekend a stationary front spread snow from southern New England across the Great Lakes region into North Dakota. Stretching from the mid-Atlantic Coast into Indiana and Texas these complex systems generated a variety of weather across much of the eastern half of the Nation. Snowfall from the system included 7 inches of new cover at Scottsbluff, Nebraska. Thunderstorms dumped locally heavy rains in the lower Mississippi Valley and touched off four tornadoes in Louisiana that caused minor injuries and some damage. Rains throughout the middle Mississippi Valley became mixed with freezing drizzle in places and changed to snow in the northern Plains and upper Valley regions.

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Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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p. 2

Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR
New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

GREENBUG continued severe in Texas and Oklahoma. (p. 41).

Special Reports

Distribution of Southwestern Corn Borer (map). (p. 44).

Some First Occurrences of the Season

PEAR PSYLLA in Oregon. SPRING CANKERWORM in Kansas.

"Guide to the adult and larval Plusiinae of California (Lepidoptera: Noctuidae)" by T. D. Eichlin, 1975. Includes keys, figures, California distribution, and hosts.

Available from Laboratory Services, Division of Plant Industry, California Department of Agriculture, 1220 N Street, Room 340, Sacramento, CA 95814.

Reports in this issue are for the week ending January 30, 1976, unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (*Euxoa auxiliaris*) - TEXAS - Light to moderate on wheat in parts of Wichita County. (Boring). OKLAHOMA - Larvae, 0.25-1.0 inch long, and heavy, 3-10 per linear foot. Damage heavy to scattered wheatfields in Tillman, Washita, Caddo, Major, Alfalfa, and Kingfisher Counties. Light elsewhere in these counties and in Cotton, Comanche, Blaine, Custer, Dewey, Woodward, Woods, Logan, Canadian, Grady, Cleveland, Oklahoma, Garfield, and Noble Counties. Controls underway in some areas. (OK Coop. Sur.). KANSAS - Larvae averaged 1.8 per drill row foot near Glasco on 5-inch wheat in Cloud County and trace to 0.9 in 4 to 5-inch wheat in Saline and Dickinson Counties. Larvae averaged 0.5 per square foot on seedling alfalfa in Ottawa County. (Bell).

GREENBUG (*Schizaphis graminum*) - NEW MEXICO - Still light, 0-2 per linear foot, on small grains near Carlsbad, Eddy County. (NM Coop. Rpt.). TEXAS - Economic in some Guadalupe County wheatfields. Scattered, heavy populations in De Witt County. Most wheat severely drought stressed. Light to moderate, up to 200 per drill-row foot in Childress, Hall, and Motley Counties. Heavier, 200-450 per drill-row foot in Archer, Baylor, Cottle, Fisher, Foard, Hardeman, Knox, Stonewall, Throckmorton, Wichita, Wilbarger, and Young Counties. Very light, 1-20 per drill-row foot in Castro County. Some problems in Karnes County. Very heavy in Medina and Uvalde Counties; many fields treated. (Cole et al.).

OKLAHOMA - Greenbug averages per linear foot by county: Washita 500 in scattered late-planted ungrazed wheat; Kingfisher 200 in ungrazed field, ranged 10-60 in grazed fields; and Tillman 150. Heavy in some fields in Comanche and Oklahoma Counties. Counts per linear foot by county: Logan 0-100; Alfalfa 0-120; and 0-40 in Major, Garfield, Noble, Dewey, Custer, and Blaine Counties. (OK Coop. Sur.). KANSAS - Counts averaged trace to 4 per drill row foot on 4 to 5-inch wheat in Saline and Dickinson Counties. (Bell).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEW MEXICO - Ranged 75-100 per square foot in newly planted alfalfa near Carlsbad, Eddy County. (NM Coop. Rpt.).

SMALL GRAINS

INSECTS

AN APHID (*Rhopalosiphum padi*) - OKLAHOMA - Light to moderate on wheat in Washita County, 0-25 per linear foot in Kingfisher County and 0-5 per linear foot in Logan County. (OK Coop. Sur.).

WINTER GRAIN MITE (*Penthaleus major*) - OKLAHOMA - Counts per linear foot by county: Washita 300-400 in scattered wheatfields and Kingfisher averaged 5 in one field. (OK Coop. Sur.).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - KANSAS - Egg averages per square foot by county (stem height): Marion 60 (5-inch), Linn 88 (8-inch), Douglas 160 (9-inch), Shawnee 69 (8-inch), Riley 70 (5-inch), and Atchison 276 (plus 12 new larvae on 7-inch stems). (Bell).

DECIDUOUS FRUITS AND NUTS

INSECTS

PEAR PSYLLA (Psylla pyricola) - OREGON - Beginning return to commercial pears in Rogue River Valley. Recent counts of 10 per tap, less than half the expected population. Dormant applications probable next week. (Berry).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - VIRGINIA - Heavy on apples in Isle of Wight County. (Allen).

ORNAMENTALS

INSECTS

AN ARMORED SCALE (Diaspis boisduvalii) - FLORIDA - Mostly adults heavy on 20 dendrobium orchids and 75 percent of 825 cattleya orchids examined January 23 at Gainesville, Alachua County. (FL Coop. Sur.).

FOREST AND SHADE TREES

INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - KENTUCKY - Aerial survey of Kentucky Ridge State Forest in Bell County and Kentenia State Forest in Harlan County revealed 3,750 infested pine trees at 22 locations (averaged 127 trees per location). About 31,600 cubic feet of plant material affected. (Matuszewski).

SPRING CANKERWORM (Paleacrita vernata) - KANSAS - First males of season flying in shelterbelts in Barton County January 28. (Bell).

MAN AND ANIMALS

INSECTS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Averaged 12 per head on cattle checked in Noble County. (OK Coop. Sur.). KENTUCKY - Larvae averaged 0.64 per animal in backs of Holstein dairy cows in Fayette County. (Barnett).

HEAD LOUSE (Pediculus humanus capitis) - FLORIDA - Continued problem in many areas of State, particularly on school children. Heavy in 4 Alachua County schools during mid-January; one school closed for a few days. (FL Coop. Sur.).

SHORTNOSED CATTLE LOUSE (Haematopinus eurysternus) - OKLAHOMA - Mostly this louse moderate to heavy on cattle in Comanche County and moderate in Noble County. (OK Coop. Sur.).

BENEFICIAL ORGANISMS AND THEIR ENEMIES

INSECTS

A BRACONID WASP (Biosteres longicaudatus) - FLORIDA - Many adults found January 2 near guava tree at North Miami, Dade County. Released in recent years against Anastrepha suspensa (Caribbean fruit fly). This collection is evidence of some success of control program. (FL Coop. Sur.).

AMERICAN BLACK FLOWER BEETLE (Tribolium audax) - KANSAS - Infested cells of Megachile rotundata (alfalfa leafcutting bee) stored at 40-50 degrees F. in Riley County. (Bell).

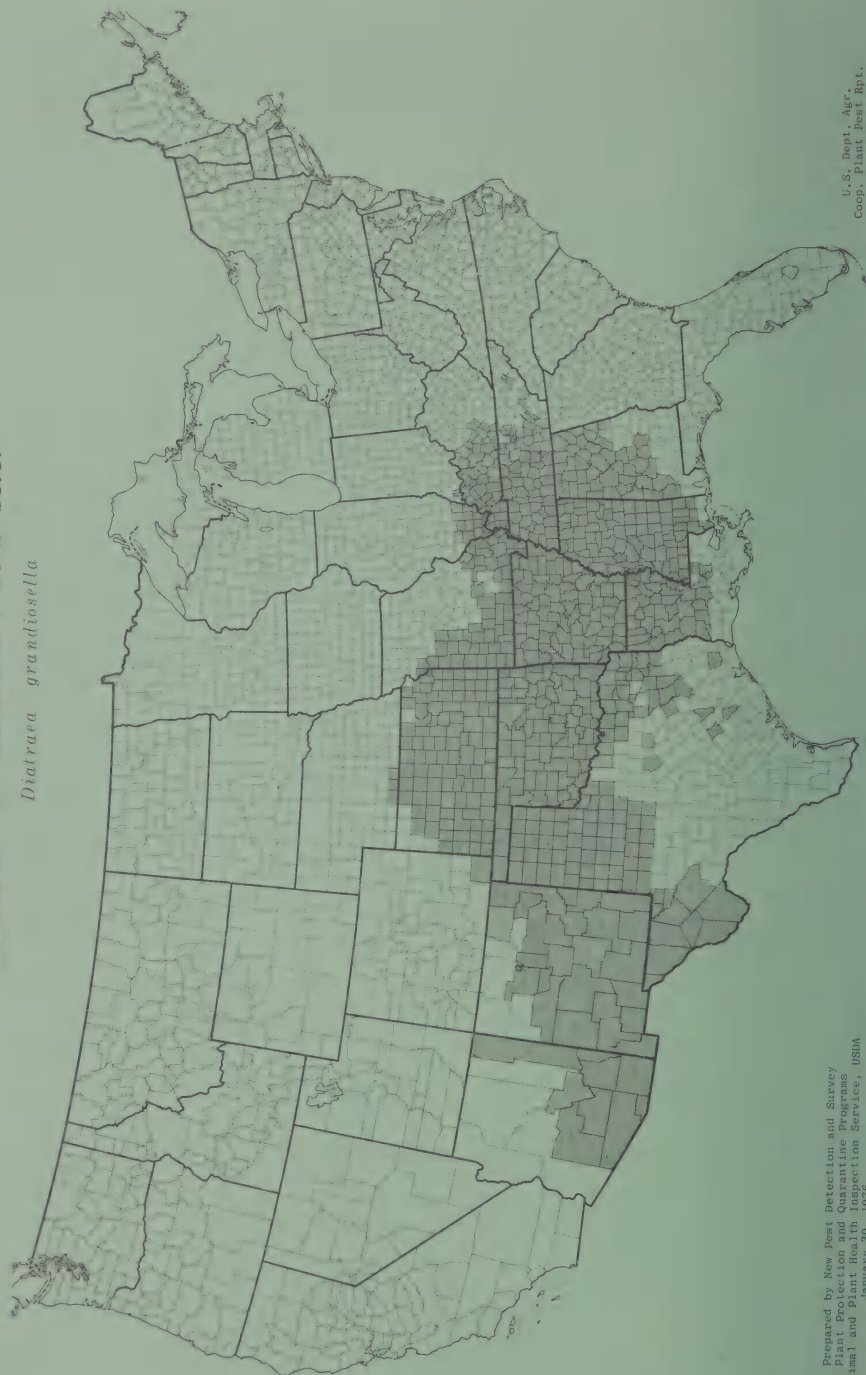
HAWAII PEST REPORT

General Vegetables - Damage by DIAMONDBACK MOTH (Plutella xylostella) and PINKWINGED GRASSHOPPER (Atractomorpha sinensis) moderate in backyard plantings of mustard and Chinese cabbage at Waimea, Hanapepe, Kaumakani, Lihue, and Wailua, Kauai. P. xylostella larvae and pupae, and A. sinensis nymphs and adults easily collected. (Mau).

Fruits and Ornamentals - ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) light to moderate on roses and citrus during survey of Heeia, Oahu. Less than 75 insects per leaf, less than 40 percent of leaves infested, and no more than 20 percent of rose plants surveyed infested. (Burkhart et al.).

Distribution of Southwestern Corn Borer

Diatraea grandiosella



Prepared by New Pest Detection and Survey
Quarantine Programs
Animal and Plant Health Inspection Service, USDA
January 30, 1976

U.S. Dept. Agr.
Coop. Plant Pest Rpt.
1(5):94, 1976

WEATHER OF THE WEEK ENDING FEBRUARY 1

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Warming trend across large portions of the Plains and Rockies contributed to unseasonably mild weather over the western two-thirds of the Nation where weekly temperatures soared as high as 25 degrees above normal. Much of the eastern third, however, was a scene of near or below normal temperatures and lots of moisture. Locally heavy rains along the Atlantic Coast States from northern Florida to Maine plus melting snow in places caused some lowland flooding.

TEMPERATURE AND PRECIPITATION: A series of fronts created unfavorable weather conditions across much of the eastern U.S. Monday. Associated with the weather systems a variety of precipitation encompassed areas from Ohio to the northwest Florida coast and east to the Atlantic Coast. Early in the day, the previous week's winter storm moved into the extreme Northeast. In its path, freezing rains developed in central Pennsylvania and spread into the upper Atlantic Coast States. Throughout the day, persistent rain glazed highways and trees from New York to Maine. Daytime precipitation included rain from the eastern Great Lakes region and the Ohio Valley into the Appalachians. Snow showers mixed with freezing rain in places, remained across the northern Great Lakes region. Southward, thundershowers extended to the central gulf coast. Tuesday morning, skies opened clear and cold over much of the Plains and Mississippi Valley while clouds accompanied a warming trend in the northwest and west-central Plains. In the Northeast, mild air spreading across New England brought an end to freezing rain in the area. Rain with occasional thundershowers persisted into the afternoon from the eastern Gulf of Mexico through the lower Appalachians northward along the New England coast. Locally heavy rains later in the day joined forces with melting snow and ice jams to push northeastern rivers and streams up sharply. In the Northwest, rain continued along the Pacific coast, turning to snow showers in the northern Rockies. The slow moving but active cold front responsible for the spree of wet weather over the central Appalachians and Northeast crept eastward Wednesday. Rain changed to a mixture of sleet and freezing rain then turned to snow from western Virginia through Maryland and into eastern Pennsylvania.

Ice jams aggravated rising rivers in the Northeast, especially portions of the Susquehanna and Hudson Rivers in New York and Allegheny River in Pennsylvania. Flooding occurred as rivers spilled over their banks throughout New England and as far south as the Carolinas. A frontal system heading across the northern Plains deposited snow on northern portions of Minnesota, Wisconsin, and Michigan. Another front along the Atlantic coast produced snow from northern Maine into West Virginia and Ohio. A warming trend across much of the Plains pushed temperatures into the mid-60's as far north as southern Kansas where Wichita scored a record high of 64 degrees. Some spots in North Dakota and Minnesota warmed as much as 50 degrees in only a days time. Fair skies greeted most of the Nation Thursday though light snow still drifted into Michigan, Ohio, and the lower Great Lakes region. Precipitation was limited to snow flurries from New England

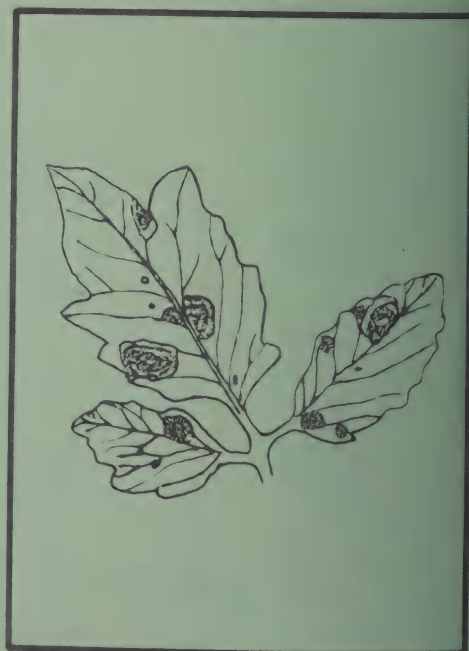
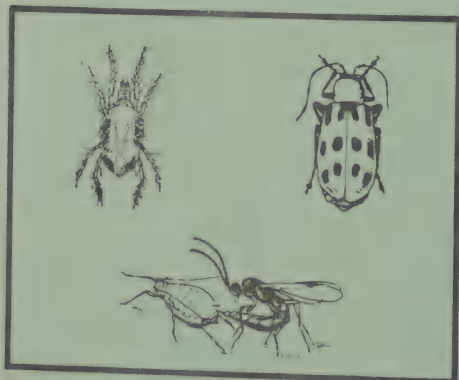
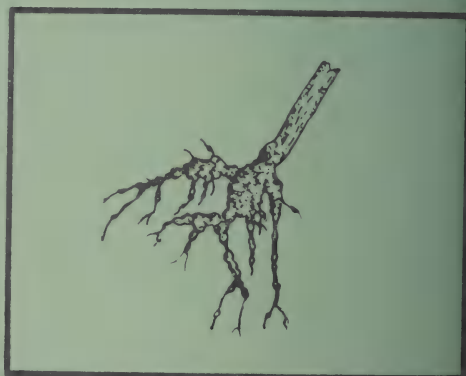
through the central Appalachians and over the upper Great Lakes region. Light showers dotted the Pacific Northwest coast. Unseasonably mild weather prevailed from the Pacific coast eastward to the Mississippi River on Thursday while east of the Mississippi, except in the Southeast, seasonal temperatures were the rule. Sunny skies aided by downslope winds pushed temperatures into the middle-60's and low 70's in parts of the southern and central Rockies. In Colorado, Pueblo soared to a record 73 degrees. A high pressure system responsible for springlike conditions also favored the intermountain regions and the central Plains and Las Vegas, Nevada, 71 degrees. Southern California still ranked as the Nation's warm spot with readings in the low 80's. In contrast, temperatures around 5 degrees put northern Minnesota at the other end of the scale. Runoff from locally heavy rains earlier in the week diminished on Friday. Rivers in the Northeast continued to subside causing widespread ice jams from portions of New York and Pennsylvania into New England.

Meantime, southern California complained of unusually dry conditions. Relief seemed unlikely too as a strong high pressure system off the California coast forced Pacific storms northward. High pressure centers that dominated much of the Nation limited Saturday's precipitation. Showers were scattered from Mississippi to eastern Texas, and a few light snow flurries drifted into the lower Great Lakes region. Two storm systems shared the blame for an inclement end of the week in the East. Together weather formations delivered rain and snow from the Great Lakes region to the Gulf. Cold air accompanied turbulence across the upper Mississippi Valley and western Great Lakes region. In contrast, mild weather favored much of the western U.S. Stockton, California, 72 degrees, chalked up a record high for the third day in a row. In the Southeast, Jacksonville, Florida, looked back on an unusually cold January. The mercury dipped to 32 degrees or lower a record 26 times compared to a 12 times average.

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VOL. I NO. 6

February 13, 1976

Cooperative PLANT PEST REPORT



Animal
and Plant
Health
Inspection
Service

U.S.
DEPARTMENT
OF AGRICULTURE



This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

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New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Some treatments applied to small grains for GREENBUG in Texas and Oklahoma. (p. 49).

HESSIAN FLY infested 36 percent of wheat tillers in area of Kansas. (p. 50).

Detection

● CITRUS BLACKFLY found in Broward County, Florida. (p. 51).

For new county records, see page 52.

Some First Occurrences of the Season

BROWN WHEAT MITE in Oklahoma. ALFALFA WEEVIL in Florida.

Reports in this issue are for the week ending February 6 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - Ranged 5-12 per linear foot, damaged scattered wheatfields in western half of State. Damage in Woodward, Harper, Major, Alfalfa, Payne, Noble, Garfield, Kay, Comanche, and Tillman Counties. Treatments applied to some fields as weather permitted. Ranged 2-7 per square foot in alfalfa field in Alfalfa County. Larvae 0-4 per square foot on roadside and up to 6 per square yard in rangeland in Woodward County. (OK Coop. Sur.). KANSAS - Heaviest counts by county: Chautauqua one larva per drill row foot, Stafford 0.8, and Barton 0.5. (Bell). TEXAS - Light to moderate on wheat in parts of Wichita County. (Boring).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Still very light overall; hot spots few. Averages ranged 0-1 per linear foot in Lea County. (NM Coop. Rpt.). TEXAS - Ranged 50-200 per linear foot in some irrigated wheat. Infested wheat and oats in Brazos, Burleson, Gonzales, and Guadalupe Counties. Drought-stressed plants began to show damage; some treatments applied. Problems continued in Bell, McLennan, Hill, and Coryell Counties. Wheat infested in Uvalde and surrounding counties; many fields treated. Ranged 25-100 per foot of row in McCulloch County. Continued to damage small grains in north-central area. Populations moderate to heavy throughout Rolling Plains area with damage in several fields. (Patrick et al.).

OKLAHOMA - Greenbug up to 1,000 per linear foot in scattered fields of young wheat in Caddo, Washita, and Beckham Counties and up to 500 per linear foot in Roger Mills County. Counts per linear foot by county: Kiowa and Jackson 1-225; Greer 1-100; Harmon 150-250; Tillman 200-350; and Comanche, Oklahoma, some scattered fields in Major and Alfalfa moderate to heavy; Garfield moderate; Kay light; east-central counties very light; and Beaver 0-15. Treatments continued in most western areas as weather permitted with control poor in some southwest area fields. (OK Coop. Sur.). KANSAS - Still light in scattered wheatfields statewide. (Bell). ARKANSAS - One live specimen found in 28 row feet of oats sampled on farm near Fayetteville, Washington County. (Boyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Average counts still light, few hot spots, in Lea and Eddy Counties. (NM Coop. Rpt.). FLORIDA - About 2,500 specimens collected in 100 sweeps of 6-inch alfalfa at Gainesville, Alachua County. (FL Coop. Sur.).

CORN, SORGHUM, SUGARCANE

INSECTS

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - ALABAMA - Larvae heavy, girdled 80-85 percent of stalks in several corn-fields at Section, north Jackson County. (Cain, Robnett).

SMALL GRAINS

INSECTS

HESSIAN FLY (Mayetiola destructor) - KANSAS - Infested 36 percent of tillers on 5-inch Labette County wheat; infested 4 percent in 2 other fields. (Bell).

AN APHID (Rhopalosiphum padi) - TEXAS - Up to 50 per foot of drill row in small grain fields in Baylor, Foard, and Wilbarger Counties. (Boring). OKLAHOMA - Up to 10 per linear foot of wheat in Roger Mills and Noble Counties. (OK Coop. Sur.). ARKANSAS - Only 3 live aphids found on 28 row feet of oats sampled on farm near Fayetteville, Washington County. (Boyer).

BROWN WHEAT MITE (Petrobia latens) - OKLAHOMA - First report of season. Up to 15 per linear foot in two Beaver County wheatfields. (OK Coop. Sur.).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Light to moderate in Foard and Wilbarger Counties. Continued to cause damage to small grains in north-central area. (Boring, Turney). OKLAHOMA - Moderate on Garfield County wheat. (OK Coop. Sur.).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - FLORIDA - One adult and 5 late-instar larvae in 100 sweeps of 6-inch alfalfa at Gainesville, Alachua County. (FL Coop. Sur.). KANSAS - Five first instars collected from 20 green shoots of alfalfa in Chautauqua County field. Eggs ranged 53-55 per square foot in dead alfalfa stems in Chautauqua and Coffey Counties. (Bell).

ORNAMENTALS

INSECTS

BROWN SOFT SCALE (Coccus hesperidum) - FLORIDA - Moderate on stems and leaves of all Afraegle paniculata (Nigeria powderflask) plants examined at Gainesville, Alachua County. This is a new host record for State. (FL Coop. Sur.).

FOREST AND SHADE TREES

INSECTS

A CERAMBYCID BEETLE (Xylotrechus nauticus) - CALIFORNIA - Larvae and adults heavy in oaks in Felicita Park at Escondido, San Diego County. (CA Coop. Rpt.).

BENEFICIAL ORGANISMS AND THEIR ENEMIES

INSECTS

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Adults and/or mummies very light in few wheatfields in Kiowa, Jackson, Tillman, Greer, Beckham, and Major Counties. (OK Coop. Sur.). KANSAS - Trace numbers of adults active in wheatfield in Pawnee County at about 55 degrees F. (Bell).

FEDERAL AND STATE PROGRAMS

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - All stages discovered at Ft. Lauderdale, Broward County. Infestation discovered on Citrus aurantifolia (lime) and C. mitis (calamondin) by K.L. Tyson January 28, 1976. Infestation involved 60 citrus plants and extended into environs on dooryard plants. Determined by H.V. Weems. Found 3.5 miles away in second nursery block on 100 plants. Collected from Mangifera indica (mango), calamondin, and C. paradisi (grapefruit) by R.H. Strong and T.D. Goodman, February 5. Determined by Goodman and Strong. Both nurseries quarantined. Delimiting surveys conducted. Sprays planned. All determinations confirmed by M.B. Stoetzel. This is a new county record. First infestation in State was found on island of Key West August 10, 1934, and eradicated after 2.5 years of a difficult campaign. (FL Coop. Sur.). As of February 11, the infestation covers 60 square miles and includes 6 infested nurseries with some spread into environs. (PPQ).

RED IMPORTED FIRE ANT (Solenopsis invicta) - ARKANSAS - One mound found on roadside 7 miles south of Harrell, Calhoun County, by Loftin and Young (initials not given) January 13, 1976. GEORGIA - One mound found on roadbank south of Winder, Barrow County, by G.D. Roper and E.W. Elder January 30, 1976. Both determined by D.R. Smith. Both are new county records. (PPQ).

SCREWWORM (Cochliomyia hominivorax) - Total of three cases reported from continental U.S. January 18-24 in Texas. Total of 30 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 64 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 148,965,000, all in Texas. Total of 64,143,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

General Vegetables - GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) eggs and adults heavy in squash (1+ acres), in tomato (0.25 acre), and in pumpkin (0.25 acre) at Waianae, Oahu. Heavy on weed hosts throughout Waianae. (Chun, Mau).

Other Insects - SPOTTED ALFALFA APHID (Therioaphis maculata) widespread on Oahu. Nymphs or wingless females light and easily found on roadside Medicago polymorpha (California burclover) at Pearl City, Waipahu, Kunia, Ewa, and Ewa Beach, Oahu. Appeared to increase at Hickam Air Force Base. Releases of parasite Trioxys complanatus (a braconid wasp) continued. Few parasites reared from field-collected mummified aphids. (Murai et al.).

Turf and Pasture - A LEAFHOPPER (Draeculacephala minerva) heavy on Bermuda grass lawns at Mililani, Makakilo, and Hickam Air Force Base, Oahu. All stages of a LEAFHOPPER (Balclutha rufofasciata) heavy in sweep collections at Hickam Air Force Base. Adults of B. rufofasciata and SOUTHERN GARDEN LEAFHOPPER (Empoasca solana) abundant in blacklight trap collections from Hickam, Waipahu, and Pearl City, Oahu. (Mau).

DETECTION

NEW COUNTY RECORDS

INSECTS

LEAFHOPPERS (Osbornellus spp.) - KENTUCKY - Adult male of O. clarus) taken in Malaise trap near Glendale, Hardin County, June 19-30, 1975. Collected and determined by P.H. Freytag; confirmed by D. Barnett. (Barnett). TENNESSEE - O. consors collected and determined by D.E. Barnett August 15, 1972. (Gordon).

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - Broward (p. 51).

RED IMPORTED FIRE ANT (Solenopsis invicta) - ARKANSAS - Calhoun; GEORGIA - Barrow (p. 51).

WEATHER OF THE WEEK ENDING FEBRUARY 8

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: A few large sections of the Nation escaped a series of winter storms that battered the United States during the week. Bitter cold wind swept snow, and icy roads plagued travelers in the Northwest and the High Plains. Weekly temperatures slipped as much as 12 degrees below normal in the Northwest, the middle Mississippi Valley, and the lower Great Lakes region. Rains that broke a prolonged dry spell in southern California highlighted the week's precipitation.

TEMPERATURE AND PRECIPITATION: Fast moving storm systems that struck eastern and central United States over the weekend continued their attack on Monday. Hurricane-force winds drew much colder air over the Atlantic Coast States and moderate to heavy rains accompanied the storm moving northward along the seaboard. An intense low implanted over northern Maine gave the Northeast the worst beating of winter so far. Wind gusts to 70 m.p.h. and record breaking cold paralyzed the area. Blowing and drifting snow blinded travelers with near zero visibilities. High winds, plus bitter cold air, throughout New England and southeast New York into Pennsylvania and through New Jersey lowered temperatures as much as 30 degrees in a matter of hours. At 7 a.m. Boston, Massachusetts, forecasters cited a reading of 50 degrees with showers; by noon, they reported 20 degrees with snow. Though the intense low had pushed well into Canada by evening, the Northeast still experienced the effects of the storm. Snowfall diminished in New York and New England but winds up to 40 m.p.h. still churned snow throughout the area. In the aftermath of the storm, portions of New Hampshire and Maine waded through 8 inches of new snow cover. Much colder readings that spread across the Northeast were assisted by strong winds that created wind chill temperatures of -40 to -50 degrees in some areas. The northern Plains had its share of severe weather on Tuesday when an Arctic air mass with powerful winds, bitter cold, and blinding snow swept into the eastern Dakotas and western Minnesota. Temperatures tumbled rapidly. The mercury read 34 degrees at 9 a.m. in Aberdeen, South Dakota, but plunged to only 18 degrees after a cold front passed through the area. Meantime, a low pressure center over southeast Oregon pulled a surge of cold air into the northern portions of the Rockies and the Plains. Snow developed from southern Montana and Wyoming into sections of South Dakota and Nebraska. Moving southward, snow and cold forced western Nebraska to issue a stockman's advisory.

A bright spot on the weather scene. Though amounts measured less than one-quarter inch, rain finally broke the prolonged dry spell for extreme southern California. On Wednesday, showers extended to the northern portions of the State. Meantime, the western winter storm still pounded the Intermountain region from Utah to northern Arizona triggering heavy snow along the eastern Colorado foothills. Gusty winds whipped snow across all of Colorado east of the Continental Divide through eastern Wyoming and into much of the High Plains. In the West, an intense low over Nevada spread snow from Sierra, Nevada, the mountains of California, across the northern and central Rockies into the west-central Plains. Over a

foot of snow was measured in the Lake Tahoe area and up to 8 inches in sections of Colorado, Utah, and Nevada. Blowing snow from strong winds circulating around the storm impeded travel throughout much of the western United States. Two principal winter storms produced a variety of severe weather across much of the Nation on Thursday. One low pressure center moving into the central Appalachians generated a band of snow, freezing rain, and sleet from the central Mississippi Valley into southern New England. The other was comprised of several low pressure centers scattered from Utah to the central California coast. Meanwhile, a western winter storm piled more snow on parts of Arizona and Utah. By Friday, some places southeast of Flagstaff, Arizona, looked out on up to 2.5 feet of snow. Outbreaks of wintry weather included showers and isolated thunderstorms with snow at higher elevations from the central and southern Pacific Coast into the Plateau region. East of the Mississippi River, weather conditions showed some promise. Snow diminished along the upper Great Lakes and at midday was scattered from the lower Great Lakes into southern New England and the middle Atlantic Coast.

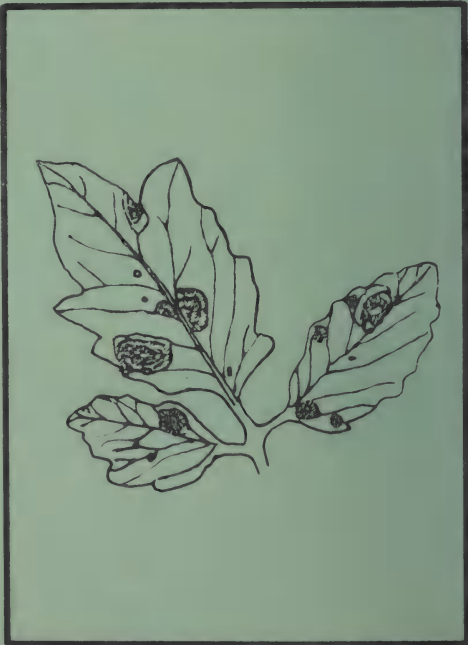
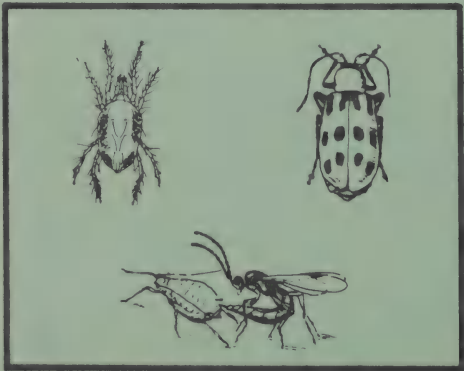
Generally, cold temperatures greeted most of the Nation Saturday morning. Frost even crept into the Carolinas, southern Mississippi, Louisiana, and southern Texas. Abundant sunshine over the Nation's interior, however, encouraged back to normal temperatures in the afternoon. Clocked at nearly 60 m.p.h., Chinook winds flowing downslope from the Rockies boosted temperatures 30 degrees in places. Daytime readings warmed into the 60's in western Kansas. In the Far West, a low pressure center off the California coast brought more moist air to the southwest United States over the weekend. Precipitation elsewhere was limited to snow showers over the northern Appalachians, eastern Ohio Valley, and the Great Lakes region. On Sunday, gusty winds buffeted the lower Great Lakes and Ohio Valley regions and caused blowing and drifting snow in New York. Frosty morning temperatures in the southeast (Tallahassee, Florida--low of 20 degrees) continued cool during the day. Afternoon temperatures halted in the 40's and 50's along the gulf and southern Atlantic coasts with some readings in the 60's in southern Florida.

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Cooperative PLANT PEST REPORT



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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ARMY CUTWORM heavy on flax in south-central area of Texas and on wheat and alfalfa in parts of western half of Oklahoma, and 4-6 per square foot of wheat in south-central Kansas. (p. 57).

GREENBUG counts up to 500 per foot of drill row in Texas, averages up to 3,000 per linear foot in west-central Oklahoma, and building up in south-central Kansas. (p. 57).

CITRUS BLACKFLY regulated area in Florida involves 200 square miles. (p. 59).

Predictions

Face fly could be heavy in Arkansas in 1976. (p. 58).

Detection

NORTHERN CATTLE GRUB is new in Florida. (p. 58).

For new county records see page 60.

Some First Occurrences of the Season

First PEAR PSYLLA eggs in Oregon.

NOTE: Beginning in this issue, changes in names of insects are in accordance with the list of "Common Names of Insects" as approved by The Entomological Society of America and revised in 1975.

Reports in this issue are for week ending February 13 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - TEXAS - Ranged 0.2-1.6 per foot of drill row of small grains in Wichita County. Heavy on flax in Jim Wells County. (Robinson). OKLAHOMA - Still heavy, 3-10 per linear foot in scattered wheat in western half of State except in Panhandle counties; some fields treated. Heavy on fall-seeded alfalfa in Kay County. Larvae in lawns and entering Harper County residences. (OK Coop. Sur.).

KANSAS - Army cutworm ranged 4-6 per square foot of wheat near Anthony in Harper County last period. Current counts occasionally threatening on wheat in Cowley, Sumner, and Harper Counties. Found in eastern but not western Barber County. Larvae up to 14 per drill row foot along field border but averaged 2 per row foot for whole field in Sumner County. Larval averages of 1-2 per row foot, damage heavy, in fields with 2 to 3-inch wheat or with shorter wheat where stands thin and/or where little tillering had occurred. Highest count averaged 4 per drill row foot on 6-inch wheat in Harper County near Corwin. Larvae ranged 0.20-1 inch. (Bell).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Continued at 0-1 per linear foot of small grains in Lea County and over southeast area. (NM Coop. Rpt.). TEXAS - Declined in south-central area, however, drought-stressed plants still showed damage. Ranged 10-50 per foot of drill row on wheat in Hale County. Light lady beetle and nabid activity helped control in Hale County. Counts per foot of drill row by county: Castro 10-200; Archer, Baylor, Cottle, Fisher, Hardeman, Jones, Kent, Motley, Wichita, Wilbarger, and Young 200-500; Dickens and Throckmorton 100-199; Rolling Plains area light. (Cole et al.). OKLAHOMA - Counts per linear foot by county: Caddo and Washita averaged 3,000 per linear foot on some late-planted wheat; Harmon averaged 100; Comanche, Garvin, and Noble had scattered heavy infestations; Major, Alfalfa, Garfield, Kay, and Pottawatomie light to moderate, increasing rapidly in some areas. (OK Coop. Sur.).

KANSAS - Greenbug generally low on wheat in Cowley, Sumner, and Harper Counties. Unusually mild weather produced rapid buildup of up to 200 per row foot on 3-inch wheat in Harper and 5-inch wheat in Sumner Counties. Some alates on small wheat indicate recent flights in area. Could soon become serious threat to wheat in area with continued mild weather. (Bell). ARKANSAS - No buildup in spite of milder temperatures. Only 2 greenbugs found in 22 row feet of oats near Fayetteville, Washington County. (Boyer).

SMALL GRAINS

INSECTS

AN APHID (Rhopalosiphum padi) - TEXAS - Light throughout Rolling Plains. Counts per foot of drill row in few fields by county: Hardeman and Wilbarger 50-250; Castro 3-500 in one field. (Boring, Moore).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Eight pheromone traps set February 2-9 resulted in total catch of 3 adults in 2 traps near Weslaco, Hidalgo County. (Norman, Deer).

DECIDUOUS FRUITS AND NUTS

INSECTS

PEAR PSYLLA (Psylla pyricola) - OREGON - Egg laying began on pears first week of February in Jackson County orchards. (Berry).

ORNAMENTALS

INSECTS

PUTNAM SCALE (Diaspidiotus ancyclus) - ALABAMA - Taken on Pinus virginiana (Virginia pine) in Butler County, May 31, 1975. Collected and determined by M.L. Williams. This is a new county record. (McQueen).

GREEDY SCALE (Hemiberlesia rapax) - ALABAMA - Taken on Juniperus virginiana (eastern redcedar) at Huntsville, Madison County, October 20, 1973, by C.H. Ray. Determined by M.L. Williams. This is a new county record. (McQueen).

AN ARMORED SCALE (Lepidosaphes yanagicola) - TENNESSEE - Infested Euonymus (burningbush) plants in Warren County June 1973 and in Coffee County May 1974. Collected and determined by J. Cagle and C. Gordon. These are new county records. (Gordon).

FOREST AND SHADE TREES

INSECTS

WHITE PINE APHID (Cinara strobis) - SOUTH CAROLINA - Very heavy on many pines in Pickens County. Objects under infested trees almost black with sooty mold. (McCaskill).

MAN AND ANIMALS

INSECTS

NORTHERN CATTLE GRUB (Hypoderma bovis) - FLORIDA - Collected from yearling steers present in State for at least one year near Cocoa Beach, Brevard County, by J.I. Glick November 14, 1975. Determined by J.I. Glick and J.F. Butler. This is a new State record. (FL Coop. Sur.).

COMMON CATTLE GRUB (Hypoderma lineatum) - KENTUCKY - Larvae averaged 1.19 per animal in backs of Holstein dairy cows in Fayette County. (Barnett).

FACE FLY (Musca autumnalis) - ARKANSAS - Survived coldest weather of winter. Due to heavy overwintering populations at 4 Washington locations, infestations could be heavy again in 1976. (Boyer et al.).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Increased in some Schizaphis graminum (greenbug) infested Caddo County wheat-fields. Wasps up to 15 per square foot, some parasitized greenbugs noted. (OK Coop. Sur.).

FEDERAL AND STATE PROGRAMS

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - New infestations found at Ft. Lauderdale, Broward County. Regulated area extends south from the northern boundary of Broward County to Dania, west to Florida Turnpike, and beyond that in some areas, and east to the Atlantic Ocean. About 200 square miles involved. Other hosts now include Eugenia sp. (Surinam cherry), Myrciaria sp. (jaboticaba), and Diospyros sp. (black sapote). Plant quarantine notice given, limited treatment underway, and delimiting surveys continue. (FL Coop. Sur.).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Collected at Teague, Freestone County, and at Chilton, Falls County, by M.A. Saucier December 4 and 15, 1975, respectively. Determined by B.D. Greer; confirmed by R.L. Hodgdon. GEORGIA - Collected near Altharetta, Forsyth County, by Myers and Cunard (initials not given) January 20, 1976. Determined by D.R. Smith. These are all new county records. (PPQ).

SCREWORM (Cochliomyia hominivorax) - Total of six cases reported from continental U.S. January 25 to February 7 in Texas. Total of 173 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 251 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 150,386,500; all in Texas. Total of 90,108,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

Turf and Pasture - GRASS WEBWORM (Herpetogramma licarsisalis) damage heavy in about 25 acres of 100-acre pasture at Kokomo, Maui. Larvae 25-35 per square foot. Moderate damage in pastures at Hana, Maui. (Miyahira).

Corn - CORN PLANTHOPPER (Peregrinus maidis) counts and damage heavy in several acres of corn at Kahuku, Oahu. Forage material reduced 50 percent in certain fields. Heavy counts in several backyard plantings of corn at Kaumakani, Kauai. (Vargas et al.).

DETECTION

NEW STATE RECORD

INSECTS

NORTHERN CATTLE GRUB (Hypoderma bovis) - FLORIDA - Brevard County. (p. 58).

NEW COUNTY RECORDS

INSECTS

AN ARMORED SCALE (Lepidosaphes yanagicola) TENNESSEE - Warren, Coffee (p. 58).

GREEDY SCALE (Hemiberlesia rapax) ALABAMA - Madison (p. 58).

PUTNAM SCALE (Diaspidiotus ancylos) ALABAMA - Butler (p. 58).

RED IMPORTED FIRE ANT (Solenopsis invicta) TEXAS - Freestone, Falls; GEORGIA - Forsyth (p. 59).

CORRECTIONS

CPPR 1(1-4):7 COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Up to 30 (averaged 19) per head on cows and 0-35 (averaged 22) per head on yearlings ... (OK Coop. Sur., PPQ).

CPPR 1(1-4):23-34 - Delete "(1,000)" under section headings Total Acres Produced, Non-treated Acres, and Treated Acres. Delete "(\$1,000)" under section headings Subtotal and Total Loss.

CPPR 1(5):43 - AMERICAN BLACK FLOWER BEETLE ... should read AMERICAN BLACK FLOUR BEETLE ...

CPPR 1(6):52 - NEW COUNTY RECORDS - LEAFHOPPERS (Osbornellus consors) - TENNESSEE - Collected in De Kalb County.

WEATHER OF THE WEEK ENDING FEBRUARY 15

Reprinted from the Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Just about the entire Nation enjoyed mild and, at times, springlike weather during the week. Temperatures averaged up to 20 degrees above normal from the Rockies to the Atlantic coast. Persistent rain and snow from southern California to the Lower Rockies moistened the dry Southwest, though most precipitation amounts were light. At the end of the week heavy thunderstorms developed in the Ohio Valley. Moderate rains on Sunday eased dryness in the Western Corn Belt.

TEMPERATURE AND PRECIPITATION: Brisk southwest winds swept unseasonably warm air across the Central and Southern Plains on Monday. Temperatures in the 80's stretched from western Texas into central Kansas, where Wichita, Kansas--84 degrees, registered the record high for the month. The first day of the week also marked nearly a full week of rain for parts of California, where amounts averaged 3-4 inches along the coast to 6-8 inches over the mountains. Low pressure centers carried precipitation, locally heavy in places, from the southern half of California across Nevada, Utah, and Arizona into western Colorado, Wyoming, and southern Idaho. Though the rainy spell came on the heels of a prolonged drought, southern California complained of too much rain by end of day. Moisture-laden air moved deep into the southwest piling some heavy snow in the central Rockies. Wind gusts to 50 m.p.h. stirred up dust and lowered visibilities across the western Plains of Kansas where Tuesday temperatures in the 60's were 40 degrees above normal for this time of year. North of a warm front, however, warm weather ended abruptly in the Great Plains. The morning mercury in Lincoln, Nebraska, slipped to a more seasonable 35 degrees and snow accompanied readings in the 20's in North Dakota. During the day, a cold front dipping into the Southern Plains and central Mississippi Valley lowered temperatures as much as 30 degrees. The wet spell in the Southwest persisted. Rain, with snow in the mountains, was scattered from southern California into the Southern Rockies. More than 5.5 inches of moisture in only 6 days put parts of the Southwest above previous record precipitation totals for February. Flooding developed in southwest Arizona where Big Sandy River pushed to its highest level since 1939. In the Colorado Mountains, heavy snows plus high winds caused many avalanches.

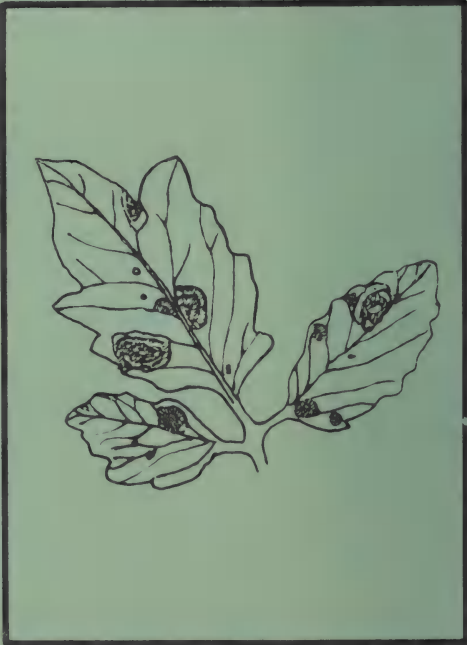
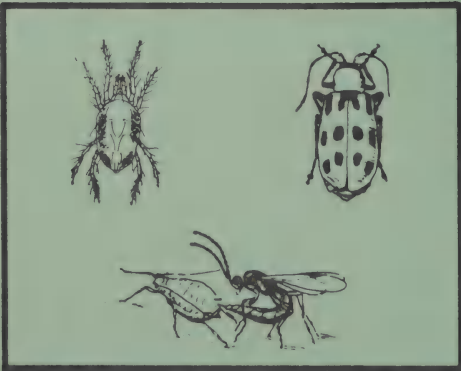
Though winds generally leveled off at 50 m.p.h. wind gusts of more than 85 m.p.h. rocked Livingston, Montana, on Wednesday. Daytime precipitation amounts were light. Two cold fronts swept in from the Northwest generating showers in the Great Lakes region and the Northern Appalachians. Light rain and drizzle were scattered from the Southern Appalachians into the Lower Mississippi Valley. Isolated shower activity dotted southwest New Mexico and southeast Arizona. Mild midweek conditions across the Central and Northwest Plains included readings in the 40's in Montana and western North Dakota. In contrast, thermometers in northern Minnesota registered 10 degrees and below. Except for some chilly readings in New England unusually mild weather for mid-February continued from the Rockies to the Atlantic coast on Thursday. Early afternoon temperatures climbed into the 70's over much of the Gulf Coast States. Portions of the middle and upper Mississippi

Valley scored record high readings--Duluth, Minnesota, 45 degrees and Waterloo, Iowa, 62 degrees. Limited precipitation included rainshowers and snow flurries over the weekend across a large section of the Nation. Morning temperatures pushed into the 50's across lower portions of the Ohio and Mississippi Valleys and central Gulf Coast States, and into the 60's throughout Oklahoma and Texas. Around midday, heavy thunderstorms mushroomed throughout the Ohio Valley and pelted Bowling Green, Kentucky, with golf ball-sized hail. In the Southeast, showers and occasional thunderstorms still rumbled from southern California to western Texas. From Texas to Florida, dense gulf coast fog cut visibilities to near zero at times, then crept inland into east-central Mississippi, southwest Alabama, and central Florida. The northern Great Lakes region stood as the exception to near or above seasonal normal temperatures that permeated most of the Nation on Saturday. Southerly winds that pumped warm moist air northward set the stage for widespread weekend shower and thunderstorm activity. Drought stricken sections of the southern and central Great Plains welcomed afternoon rainstorms that developed from the Texas Panhandle through portions of the Central Plains. In the evening, an active frontal system was responsible for a moisture outbreak that moved rapidly northeast into the Upper Mississippi Valley. Sunday, a series of disturbances produced rain and snow over the Pacific Northwest into northern California and northern Idaho. In the colder northern air, snow and freezing drizzle ranged from central North Dakota into upper Michigan and light showers dampened areas from southern Minnesota into lower Michigan and Indiana.

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February 27, 1976

Cooperative PLANT PEST REPORT



Animal
and Plant
Health
Inspection
Service

U.S.
DEPARTMENT
OF AGRICULTURE

This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

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CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Treatments underway for ARMY CUTWORM in western half of Oklahoma and in parts of Kansas. (p. 65).

GREENBUG continued severe in parts of Texas and Oklahoma. (p. 65).

More ALFALFA WEEVIL larvae appearing in Tennessee, Oklahoma, and Kansas. (p. 65).

Detection

A HELODID BEETLE is new for Hawaii. (p. 67).

For new county records see page 67.

New host records include BLACK CITRUS APHID for Florida (p. 66) and OLEANDER HAWK MOTH for Hawaii (p. 67).

Some First Appearances of the Season

ARMY CUTWORM moths in Indiana. ROSE APHID in Alabama. SOUTHERN PINE BEETLE in Mississippi.

Special Reports

State Survey Coordinators (pp. 69-72).

Cooperative Survey Entomologists (pp. 73-75).

Reports in this issue are for week ending February 20 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - Larvae very heavy, 3-12 per linear foot, and wheat damaged in western half of State. Infestations in most areas variable from field to field, heavy only in scattered fields. Treatments underway in most areas; many fields treated. Larvae per square foot by county: Grady 5-10 in damaged alfalfa field and Kay 1-3 in 2 fields. (OK Coop. Sur.). KANSAS - Serious infestations on wheat in eastern, southern, and westernmost south-central districts; much treatment underway. Similar infestations in Ottawa, Saline, Marion, Montgomery, and Douglas Counties. Few nearly full-grown larvae in Cowley County. Larvae more developed than usual for this period due to mild winter. (Bell). INDIANA - First adults of season at lights in Warren County. (Meyer).

ARMYWORM (Pseudaletia unipuncta) - VIRGINIA - Third and fourth-instar larvae on several acres of Westmoreland County barley. Damage early, probably due to warm weather of this period. (Allen).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Counts per linear foot up to 10 on wheat near Clovis, Curry County, and ranged 15-18 on barley south of Las Cruces, Dona Ana County. Some yellowing noted. (NM Coop. Rpt.). TEXAS - Counts light to heavy in Rolling Plains area, ranged 50-350 per linear foot on irrigated wheat in Panhandle area, heavy on wheat in Maverick, Medina, and Uvalde Counties, and fewer than 5 per foot of drill row on small grains in Trans-Pecos area. Some problems continued in western south-central area. (Boring et al.). OKLAHOMA - Counts per linear foot by county: Grant averaged 1,500 in 2 wheatfields in Deer Creek; Noble, Kay, Garfield, Major, Alfalfa, and Oklahoma scattered and heavy; Payne and Pottawatomie 0-15; Comanche heavy; and McCurtain 100-150. (OK Coop. Sur.). KANSAS - Counts per drill row foot of wheat by county: Cowley up to 35 and Barber up to 20. (Bell).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - TENNESSEE - Larvae hatched in 4 central area fields. Larvae 0-2 per terminal on 10 percent of terminals. (Gordon, Bruer). OKLAHOMA - Larvae 1-5 per terminal on 50-60 percent of alfalfa terminals in Grady County. Mostly first or second instars. Newly hatched larvae 50-100 per square foot in many samples from Stephens and Payne Counties. (OK Coop. Sur.). KANSAS - First and second instars averaged 0.4 per 2-inch green alfalfa stem in Montgomery County; larvae 70 percent first instar. First instars 0.8 per 1-inch green stem in Labette County. (Bell).

PEA APHID (Acyrtosiphon pisum) - NEW MEXICO - Ranged 20-30 per square foot of forage in Dona Ana County. (NM Coop. Rpt.). ARKANSAS - First specimens of season occasionally on alfalfa near Fayetteville, Washington County. (Boyer).

ORNAMENTALS

INSECTS

EUONYMUS SCALE (Unaspis euonymi) - FLORIDA - Infested all of 10 Eurya japonica plants at Fernandina Beach, Nassau County, February 11, 1976. Collected by C.H. Webb. Determined by A.E. Graham. This is a new county record. (FL Coop. Sur.).

AN ARMORED SCALE (Lepidosaphes yanagicola) - TENNESSEE - Infested Euonymus (burningbush) in Knox County June 1973. Collected by J. Hammett. Determined by W. VanLandingham. This is a new county record. (Gordon, Bruer).

ROSE APHID (Macrosiphum rosae) - ALABAMA - First infestation of season on 50 percent of new growth on roses in home planting in Lee County. Light, expected to increase rapidly. (McQueen).

BLACK CITRUS APHID (Toxoptera aurantii) - FLORIDA - Lightly infested one Anthurium sp. at Miami, Dade County, February 10. This is a new host record for State. (FL Coop. Sur.).

FOREST AND SHADE TREES

INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - MISSISSIPPI - First attacks of season on Monroe County pine trees. (Fitzpatrick).

MAN AND ANIMALS

INSECTS

COMMON CATTLE GRUB (Hypoderma lineatum) - TEXAS - Adults infested livestock in northern areas. Activity very noticeable in Jack County. (Turney). OKLAHOMA - Counts per head of cattle by county: Comanche heavy, up to 35, and Payne 0-15, averaged 10. (OK Coop. Sur.). KENTUCKY - Larvae averaged 1.8 per cow in backs of Holstein dairy cows in Fayette County. (Barnett).

A TABANID FLY (Chrysops fuliginosus) - MARYLAND - Taken May 24, 1975, near Choptank, Dorchester County. Collected and determined by W.E. Bickley. This is a new county record. (U. Md., Ent. Dept.).

FACE FLY (Musca autumnalis) - TENNESSEE - One per head on 7 of 35 cattle in central area. (Gordon, Bruer).

FEDERAL AND STATE PROGRAMS

INSECTS

SCREWORM (Cochliomyia hominivorax) - Total of 7 cases reported from continental U.S. February 8-14 in Texas. Total of 99 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 193 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 94,323,500; all in Texas. Total of 80,505,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

New State Record - Seven adults of a HELODID BEETLE (Scirtes sp.) taken in blacklight trap at Hickam Air Force Base during December 1975. Collected by J.W. Beardsley. Determined by J.M. Kingsolver. Specimens also taken in light trap at Barbers Point, Oahu. This is first member of family Helodidae in State. (Beardsley, Mau).

General Vegetables - VARIEGATED CUTWORM (Peridroma saucia) damage light to moderate in 20+ acres of Chinese cabbage throughout Waimea, Hawaii. Direct losses noted due to larval damage to hearts of harvesting-stage heads. Early instar larval infestations light in one acre of iceberg lettuce at Waimea. (Shishido, Mau).

Fruits and Ornamentals - OLEANDER HAWK MOTH (Deilephila nerii) damage to oleander hedges heavy at Wailua and Lihue, Kauai. Light on Rauwolfia sp. at Hilo, Hawaii, new host record for State. (Shishido et al.). BANANA SKIPPER (Erionota thrax) moderate to heavy at Hana, Maui. Infested nearly all banana trees at Hana. Damage heavy, at least half of total plants surveyed had 50+ percent defoliation. Reported in early February from Waiohinu, Hawaii, most southern find to date. Will soon reach banana-growing areas of Kona. (Jones et al.).

Beneficial Insects - LANTANA DEFOLIATOR CATERPILLAR (Hypena strigata) defoliated lantana at Kapaa, Lihue, and Huleia, Kauai. Defoliated 90-95 percent of lantana (1,000 acres of pastures) at Ulupalakua, Maui; larvae heavy. (Sugawa et al.).

DETECTION

NEW STATE RECORD

INSECTS

A HELODID BEETLE (Scirtes sp.) - HAWAII - Oahu Island. (p. 67).

NEW COUNTY RECORDS

INSECTS

AN ARMORED SCALE (Lepidosaphes yanagicola) - TENNESSEE - Knox (p. 66).

EUONYMUS SCALE (Unaspis euonymi) - FLORIDA - Nassau (p. 66).

A TABANID FLY (Chrysops fuliginosus) - MARYLAND - Dorchester (p. 66).

WEATHER OF THE WEEK ENDING FEBRUARY 22

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Weather conditions spelled springtime for most of the Nation during the week and some places averaged readings as high as 20 degrees above normal. Invasions of cold air in the West pushed mercury slightly below normal along the south Pacific coast and in central and southern Rockies. Strong storm systems early and late in the week combined to drop heavy rain and snow through the central United States. Most of the Great Plains moisture came as snow accompanied by high winds. Tornadoes touched down in Arkansas and Missouri on Saturday causing one death, five injuries, and widespread damage.

TEMPERATURE AND PRECIPITATION: Springlike weather got the week off to a pleasant start for areas from the gulf coast to the Ohio and middle Mississippi Valleys and east to the Atlantic coast. A warm front that touched off thunderstorms from the east-central Plains into the northern Ohio Valley boosted morning temperatures into the 60's in parts of Kansas and Missouri. Other systems in a series of rapidly moving weather disturbances produced a variety of conditions elsewhere in the Nation. At midday, warm, hazy weather cloaked the eastern portions of Texas and Oklahoma, the southern half of the Mississippi Valley, and the southern and middle Atlantic coast. Rain showers and a few thunderstorms were scattered from Iowa through the Ohio Valley. Some snow turned up in the eastern Dakotas, western Minnesota, and northwest Iowa. Looking at Tuesday's weather, spring again seemed ahead of schedule across much of the Nation east of the Rockies. Many record highs came out of the middle Atlantic States where the mercury pushed into the upper 60's and low 70's by midday. In Virginia, Richmond soared to a record 81 degrees.

Meantime, a fast moving frontal system swept through the Northeast generating snow in the northern New England area and showers and thundershowers from southern New England into the Appalachians and western Tennessee. After only 6 hours, Wilmington, Vermont, measured 5 inches of new snow. Heavy afternoon thunderstorms, typical of Springfield, developed from central Texas through Louisiana and Arkansas into western Kentucky and Tennessee. Associated with the frontal system, tornadoes appeared near Little Rock, Arkansas, where some damage was reported. A frontal system was blamed for midweek precipitation throughout the eastern United States. Showers and thundershowers ranged from the Appalachians and eastern Ohio Valley into the Lower Mississippi Valley. Isolated severe weather in the South brought strong damaging winds to portions of Louisiana and Mississippi. On Wednesday afternoon, a line of heavy thunderstorms marched through the Southeast. Strong gusty winds that accompanied storms caused widespread damage in Mississippi and Alabama. Central Mississippi reported one fatality. In Indiana, a tornado at New Port destroyed two dozen cars and injured 10 people.

Weather of the week continued on page 76.

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Revised February 20, 1976

U.S. Dept. Agr.
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1(8):73-75, 1976

Weather of the week continued from page 68.

On Thursday, a vigorous winter storm shook the Intermountain Region and then turned its attention to the central Rockies and Southwest. A cold front associated with the storm produced gusty winds and plunging temperatures throughout the area. In just one hour, temperatures at Milford, Utah, slipped from 52 degrees to 30 degrees. Precipitation also made news in the West when a wet weather system from the Pacific spread rain from western Washington into central California. Rain and snow also extended inland through the northern halves of the Rockies and Plateau Region. Meantime, mild temperatures continued to dominate the Nation from the southern Rockies through the central Plains and east to southern New England and the Atlantic coast. Readings warmed into the mid 70's in eastern North Carolina and into the low 60's in southeast Pennsylvania. Backed by wind gusts up to 70 m.p.h. a Pacific cold front pushed eastward into the southern Plains on Friday. Meantime, another front with sharply colder air made its way through the northern Plains into Minnesota.

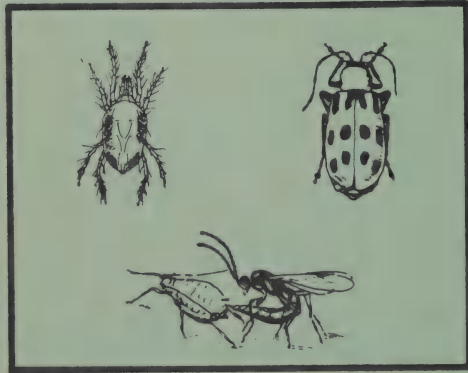
During the day, a deepening winter storm out of the Rockies put the central Plains on alert. As it spread eastward, the storm left 6 to 18 inches of new snow in mountains of Utah. Upon its arrival, an invasion of cold air sparked severe thunderstorm activity in the central United States. In places, blizzard conditions prevailed as wind gusts of over 50 m.p.h. whipped snow through the area. Nighttime rain and thunderstorms preceded the snow across much of the Nation's midsection and then changed to snow when the cold air arrived. Saturday forecasters cited continued heavy storms from the Texas coast through eastern Arkansas and western Tennessee into the western Ohio Valley. Tornadoes swept through portions of Missouri and Arkansas. One twister caused one death and five injuries in Poplar Bluff, Missouri. States reporting wind damage included Mississippi, Tennessee, and Illinois. The weekend weather generally improved over most of the Nation. Sunday opened to sunny skies from the Mississippi Valley to the Pacific coast. A warming trend began in the Plains and the Rockies as colder air pushed toward the Atlantic coast. Portions of the Plains measured temperatures as much as 20 degrees warmer compared to Saturday's readings.

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Cooperative PLANT PEST REPORT



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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ARMY CUTWORM economic on wheat and alfalfa in Kansas. (p. 79).

GREENBUG, dry weather, and insecticide resistance causing concern for small grains in Texas. (p. 79).

Treatment required for PEA APHID and BLUE ALFALFA APHID in California. (p. 80).

"Hot spots" for CITRUS BLACKFLY treated in Florida. (p. 82).

Detection

A LYGAEID BUG is new for Hawaii. (p. 82).

For new county and island records, see page 85.

Some First Appearances of the Season

EASTERN SUBTERRANEAN TERMITE in Kentucky.

Special Reports

The Correct Name for the Gypsy Moth (pp. 83-84).

Reports in this issue are for the week ending February 27 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (*Euxoa auxiliaris*) - KANSAS - Economic on wheat and some alfalfa in central area. Scattered fields seriously injured. Worst in eastern counties. Larvae heaviest, 8-15 per row foot, in Cloud and Clay Counties; plants cut to ground level and below. Wheat eaten to ground level in one field each in Cowley and Reno Counties. More abundant on alfalfa than wheat. Damaged seedlings and old stands. Larval migration in some fields in Marion, Sumner, Sedgwick, Kingman, Cowley, and Clay Counties. (Bell).

GREENBUG (*Schizaphis graminum*) - NEW MEXICO - Ranged 15-20 per linear foot of barley in Dona Ana County. Some activity in Curry County. (NM Coop. Rpt.). TEXAS - Reduced by beneficial insect activity in north and south-central areas. Infested wheat in Uvalde County. Counts per foot of row by county: Rolling Plains area heavy; Castro up to 500; and Hale 0-1,000 on wheat. Beneficials active, particularly lady beetles, up to 10 mummies per foot of drill row in Hale County. (Turney et al.). ARKANSAS - Trace on small grains due to good moisture supply. (Boyer) KANSAS - Serious on wheat in Edwards and Kiowa Counties; some wheat killed in Kiowa. (Bell).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEW MEXICO - Fewer than 10 per square foot in Eddy, Chaves, Dona Ana, Bernalillo, and Valencia Counties. One field treated in Dona Ana County. (NM Coop. Rpt.).

SMALL GRAINS

INSECTS

WINTER GRAIN MITE (*Penthaleus major*) - TEXAS - Increased on small grains in Archer, Shackelford, Throckmorton, and Wilbarger Counties. Ranged 10-200 per foot of drill row on scattered fields in Rolling Plains area. (Boring).

BANKS GRASS MITE (*Oligonychus pratensis*) - TEXAS - Damaged 40-50 percent of some wheatfields in Palmer County. (Moore).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - TEXAS - First larvae of season, about one per square foot, on alfalfa starting growth in Hale County. (Latham). KANSAS - Hatched as far north as Manhattan, Riley County, and over much of State due to mild weather. One first-instar larva and one second instar per green stem in field in Wilson County and 0.8 per stem (40 percent in first instar, 60 percent in second) in field in Chautauqua County. (Bell). INDIANA - First or second instars in maximum of one in 10 stems of one-inch alfalfa in 3 Harrison and Washington County fields. (Meyer).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - CALIFORNIA - Appeared early due to warm weather in January. Some fields treated in Imperial County week of February 20. (CA Coop. Rpt.).

APHIDS (Acyrtosiphon spp.) - CALIFORNIA - A. pisum (pea aphid) and A. kondoi (blue alfalfa aphid) on alfalfa in Imperial County; some treatment required. Controls effective. (CA Coop. Rpt.).

SUGAR BEETS

INSECTS

GREEN PEACH APHID (Myzus persicae) - CALIFORNIA - Buildup in sugar beet fields required treatment in Imperial County week of February 20. (CA Coop. Rpt.).

COLE CROPS

INSECTS

IMPORTED CABBAGEWORM (Pieris rapae) - ALABAMA - First adults of season and first for past 60 days noted in flight, laying eggs on collards and turnips in Lee County. (McQueen).

CABBAGE MAGGOT (Hylemya brassicae) - TEXAS - Heavy on cabbage in gulf coast area. (Robinson).

DECIDUOUS FRUITS AND NUTS

INSECTS

PEAR PSYLLA (Psylla pyricola) - OREGON - Adults on pears in Rogue River Valley ranged 0-3 per tray in chemically treated blocks and 8-15 in untreated orchards. Treatments before February 7 reduced total eggs laid and percentage of spurs infested. (Berry).

GREEN PEACH APHID (Myzus persicae) - OREGON - Began hatch in Jackson and Umatilla Counties. Nymphs on peach in Rogue River Valley and Hermiston areas. (Berry, Goeden).

CITRUS

INSECTS

CITRUS RED MITE (Panonychus citri) - CALIFORNIA - Heavy on citrus trees at Cardiff, San Diego County, week of February 20. (CA Coop. Rpt.).

ORNAMENTALS

INSECTS

ARMORED SCALES - ALABAMA - Quadraspidiotus juglansregiae (walnut scale) collected on dogwood at Decatur, Morgan County, by H. Marks, September 18, 1975. Chionaspis heterophyllae collected on Pinus echinata at Jasper, Walker County, by M.L. Williams, August 17, 1975. All determined by M.L. Williams. These are new county records. (McQueen).

PINE TORTOISE SCALE (Toumeyella parvicornis) - ALABAMA - On Pinus echinata (shortleaf pine) at Jasper, Walker County. Collected and determined by M.L. Williams, August 17, 1975. This is a new county record. (McQueen).

A MEALYBUG (Pseudococcus sorghiellus) - ALABAMA - Collected on Lyonia ligustrina (maleberry) at Gulf State Park, Baldwin County. Collected and determined by M.L. Williams, June 29, 1975. This is a new county record. (McQueen).

MAN AND ANIMALS

INSECTS

COMMON CATTLE GRUB (Hypoderma lineatum) - TEXAS - Adults increased on livestock in northern area. (Turney). KENTUCKY - Averaged 1.1 per cow in backs of Holstein dairy cows in Fayette County. (Barnett).

HORN FLY (Haematobia irritans) - TEXAS - Adults 50-100 per head in Nueces County and increasing. (Robinson).

MOSQUITOES - CALIFORNIA - Warm weather and rain initiated mosquito activity in many northern areas week of February 20, for second time in past weeks. Normally delayed until March. (CA Coop. Rpt.).

HEAD LOUSE (Pediculus humanus capitis) - ALABAMA - Three cases confirmed among school children at 2 schools, Lee County February 24, 1976. First cases of head louse in State since about 1918 or 1919 in Elmore County. Collected and determined by J. Walker. This is a new county record. (Rearden).

HOUSEHOLDS AND STRUCTURES

INSECTS

BROWN SPIDER BEETLE (Ptinus clavipes) - ALABAMA - Adults infested home at Bay Minette, Baldwin County, February 20, 1976. Collected by D. Dunn. Determined by H.F. McQueen. This is a new county record. (McQueen).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - KENTUCKY - Swarmed first in Mercer County near Harrodsburg on February 17 and then later in Hopkins, Union, Christian, Henderson, and Webster Counties. (Barnett, Christensen).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A LADY BEETLE (Coleomegilla maculata) - ARKANSAS - Adults active in eastern area small grain fields due to warm temperatures. (Boyer).

FEDERAL AND STATE PROGRAMS

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - Treatment of "hot spots" in Broward County initiated February 27 to suppress high populations. (PPQ).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - Total of 300 million sterile pupae and adults released in Los Angeles County to March 3 in 100-square-mile release area. (PPQ).

SCREWWORM (Cochliomyia hominivorax) - Total of 9 cases from continental U.S. February 15-21 in Texas. Total of 85 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 210 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 90,554,300, all in Texas. Total of 96,006,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII INSECT REPORT

New State Record - A LYGAEID BUG (Ligyrocoris litigiousus) found on native species of Bidens on Kamaileuhu Ridge (Waianae Kai Forest Reserve), Oahu. Nymphs and adults collected at night by W.C. Gagne, October 19, 1975. Determined by P.D. Ashlock. (Gagne).

Insect Detection - A NOCTUID MOTH (Leucania loreyi) found in black-light trap material from Hickam Air Force Base, Oahu. No caterpillars have been collected in Hawaii; therefore, host plants here are unknown. Many adults of a BITING MIDGE (Atrichopogon jacobsoni) observed on passionfruit vines at Pokai Ranch, Kauai, by S. Higa, February 19, 1976. This is a new island record. Determined by S. Higa. According to Drake (Proc. Hawn. Ent. Soc. 21:63-64), the larvae breed in rotting plant material. (Mau).

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

MARCH 1976

The National Weather Service's 30-day outlook for March is for temperatures to average above seasonal normals over the southern Plateau region and from the central and southern Great Plains eastward to the middle and south Atlantic coast. Below normal averages are indicated for the Pacific Northwest and in northern portions of both the northern Great Plains and the northern Mississippi Valley. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median value in the Northwest, the northern Great Plains, the Midwest, and the Northeast. Elsewhere, less than the median amount is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

The Correct Name for the Gypsy Moth

Douglas C. Ferguson 1/

The first comprehensive research project on the systematics of the North American Lymantriidae has been completed and will be ready for publication in 1976. One of many taxonomic problems considered in this work is that of the correct name for the gypsy moth, a matter of widespread concern and urgency, and I decided to publish here an advance summary of the rationale underlying the decision to reinstate in the American literature the widely used name, Lymantria dispar (L.).

The gypsy moth has been known as Liparis dispar or Porthetria dispar in America, Ocneria dispar in Russia, and Lymantria dispar in most European countries and elsewhere. Liparis Ochsenheimer, 1810 (the oldest name), had to be eliminated from consideration because it is preoccupied; it had been used earlier (1777) for a genus of fish, and according to the International Code of Zoological Nomenclature, the same name can not be used again for another genus. My studies on the type-species of European lymantriid genera convinced me that Ocneria Hübner (1819), based on Ocneria rubea (F.) as type-species, should continue to be regarded as distinct, not combined with Lymantria as had been done in the USSR.

Choosing between the next two available names, Lymantria and Porthetria, was not so simple for two reasons: 1) They were published simultaneously on the same page of the same work by Hübner (1819) so that neither has clear priority, and 2) some authors have considered that their type-species, Phalaena monacha L. (the nun moth) for Lymantria and Phalaena dispar L. for Porthetria, were different enough to be placed in separate genera. If these two species are placed in different genera, Porthetria must be used for the gypsy moth, and Lymantria for the nun moth, but if they are combined, one name must be chosen over the other.

I will first explain the solution to problem Number 2. The complex to which the gypsy moth belongs includes about 150 species in the Old World, mostly in tropical Asia and Africa; many were examined in connection with this research. These show much diversity, including some very colorful species, but variation in genitalia and other character systems of a selected set of representative species proved to be within acceptable generic limits. Characters blend in such a way that one can not draw generic lines between species groups. The two species of concern to us for nomenclatural purposes, monacha and dispar, are more similar structurally, both as adults and larvae, than either species is to certain of the more divergent tropical species. Therefore I am convinced that there is no sound justification for putting them in different genera, even if the group were split. This view agrees with long-standing usage in most of the Old World.

In choosing between two simultaneously published and equally available names for the same genus, the taxonomist must consider actions of prior authors, usage, and concern for stability of nomenclature. Lymantria is the choice on every count. The

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c/o U.S. National Museum, Washington, D.C. 20560

International Code specifies that the relative priority of such names is determined by the action of the first reviser. Francis Walker, in 1855, List of the Specimens of Lepidopterous Insects in the Collection of the British Museum, 4:870, first combined Porthetria and Lymantria as a single genus, for which he used Lymantria; he is considered to be the first reviser. Although both names have continued to be used extensively, Porthetria mainly in North America since the introduction of dispar, and Lymantria in most of the Old World during the same period, Lymantria has had greater frequency of usage in the world literature. With the exception of Liparis and Ocneria, which were used briefly, Lymantria has enjoyed almost universal application by European authors for about 80 years. It is thus well established in the literature that covers the faunas of Eurasia, Indo-Australia and Africa where the many species of the genus are indigenous.

The species name, dispar Linnaeus, 1758, has clear priority and has never been challenged. Although it has about 55 synonyms, most of these refer to minor color variants, a few to good subspecies. The populations of America and most of Europe belong to the nominate subspecies, L. dispar dispar (L.), but for the purposes of most non-taxonomic publications in which the region of origin is implicitly understood, the name may simply be given as Lymantria dispar (L.).

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1(9):83-84, 1976

DETECTION

NEW STATE RECORD

INSECTS

A LYGAEID BUG (Ligyrocoris litigiosus) - HAWAII - Oahu Island. (p. 82).

NEW COUNTY AND ISLAND RECORDS

INSECTS

ARMORED SCALES - ALABAMA - Chionaspis heterophyllae: Walker; and Quadraspidiotus juglansregiae (walnut scale): Morgan. (p. 80).

A BITING MIDGE (Atrichopogon jacobsoni) - HAWAII - Kauai. (p. 82).

BROWN SPIDER BEETLE (Ptinus clavipes) - ALABAMA - Walker. (p. 81).

HEAD LOUSE (Pediculus humanus capitis) - ALABAMA - Lee. (p. 81).

A MEALYBUG (Pseudococcus sorghiellus) - ALABAMA - Baldwin. (p. 81).

PINE TORTOISE SCALE (Toumeyella parvicornis) - ALABAMA - Walker. (p. 81).

WEATHER OF THE WEEK ENDING FEBRUARY 29

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Little significant precipitation dampened an unusually favorable weather week across virtually all of the United States. Rain and snow accompanied seasonably cold temperatures along the northern half of the Pacific coast. Light flurries drifted into the Lower Great Lakes region and showers moistened southern Florida. In general the weather seemed a couple of months ahead of schedule, as temperatures from the Central Plains to the Northern Atlantic States averaged nearly 20 degrees above normal in places.

TEMPERATURE AND PRECIPITATION: Southerly breezes and fair skies accompanied warming trend across the upper Great Plains and the Rockies, and again pushed temperatures in some places, as high as 30 degrees above normal. Monday afternoon recorded highs west to Bismarck, North Dakota, 63 degrees and Sioux City, Iowa, 62 degrees. Sunshine brightened the Nation's interior from the southern Appalachians west across the central Plains, and south through Texas and the southern Rockies. Two weather systems shared the credit for most of the Monday precipitation nationwide. One Pacific cold front moved into western Idaho and northern California and another approached the Washington coast, delivering light rain with snow at higher elevations throughout the Pacific Northwest. Elsewhere, light snow flurries appeared along the western lake shores of Michigan, from eastern Ohio into the central Appalachians, and across western New York. Southerly winds circling a high pressure system off the North Carolina coast pulled warmer air across the middle and southern Atlantic Coast States Tuesday. Once more temperatures typical of late April reigned from the

central Great Plains through the Ohio Valley region. Afternoon highs, ranged from 40 degrees to the 50's in the North, to the 60's and 70's in the South. Only the northern portion of Maine where temperatures failed to climb above the freezing mark missed out on mild weather that favored nearly all of the United States.

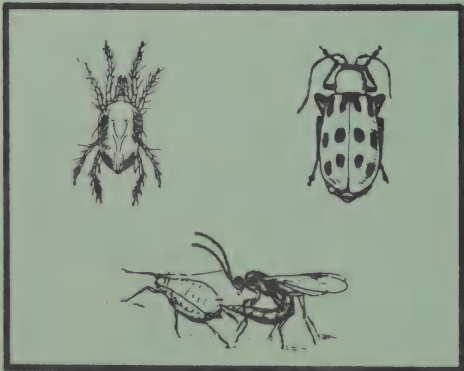
North of the United States border, a stationary high pressure system that blocked movement of cold air to the eastern half of the Nation, held its ground Wednesday, shattering record high readings from the northern Plains into New England. Unseasonably warm weather in the Midwest spread eastward to portions of the Atlantic Coast, erased previous records in Lansing, Michigan, 63 degrees; Hartford, Connecticut, 70 degrees; and Baltimore, Maryland, 73 degrees. While unseasonably mild conditions prevailed from Michigan to North Carolina, into eastern New York, and southern New England, clouds held temperatures lower over the central Plains and middle Mississippi Valley. Stormy conditions sprang up Thursday over Washington and Oregon as a Pacific front progressed inland across the Intermountain region. Locally heavy rains poured into portions of northern California. In the Southeast another frontal system generated showers throughout the southern fourth of Florida and then headed northward along the Atlantic seaboard. Widespread mild conditions still highlighted the national weather picture. From the central Plains to the Northern Atlantic States, Thursday's record highs included Caribou, Maine, 42 degrees; Rockford, Illinois, 58 degrees; and Syracuse, New York, 64 degrees. Readings in the upper 50's extended as far north as the interior of Vermont. In the Northwest rain, snow, and strong winds accompanied a vigorous storm, as it spread into the western and southern mountains of Montana. Throughout the Pacific northwest typical February temperatures prevailed. Meantime, readings in the mid-70's generally scheduled for the month of May, showed up from the central Great Plains and Oklahoma to the middle Atlantic Coast. Unseasonably warm air shattered record highs, many set in 1890's in Iowa, southern Minnesota, New England, and from Lower Michigan to the central Appalachians. Though the weekend brought cooling across the Plains and middle and upper Mississippi Valley, conditions were still mild for this time of year. From the Lower Great Plains to the Atlantic Coast, many cities claimed new record highs; Harrisburg, Pennsylvania, 68 degrees; Bridgeport, Connecticut, 67 degrees; and Baltimore, Maryland, 74 degrees. An end to record warm weather seemed near, however, as a cold front carrying gusty winds that topped 50 m.p.h. passed through Providence, Rhode Island, temperatures slipped from a record 66 to a cooler 57 degrees.

The United States weather conditions changed little during the week. A cold air mass that could spell winter comeback for portions of the central United States, began pushing slowly southeastward on Sunday. Early afternoon temperatures hovered near the zero mark in northern portions of North Dakota and Montana. Just ahead of a cold surge record, high readings came out of Salt Lake City, Utah, 60 degrees, and Phoenix, Arizona, 84 degrees, and from the southern Great Lakes region into southern New England. This sharp temperature contrast touched off showers from the lower Great Lakes region into Vermont. Meanwhile, a low pressure center in the West continued it's buildup. Associated with the disturbance, snow spread from the southern portions of Oregon and Idaho, across Wyoming and Southern Montana, into northwest Nebraska, and capped the California Sierras.

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Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ALFALFA WEEVIL treated in Texas. (p. 90).

CITRUS BLACKFLY delimiting surveys in Florida stabilizing. (p. 93).

More trees found infested by COMSTOCK MEALYBUG in area of California. (p. 93).

Detection

● Two THRIPS in Florida are new continental United States records. (p. 95).

A PLANT BUG is new in Idaho. (p. 92).

For new county and island records, see page 95.

Some First Appearances of the Season

ALFALFA WEEVIL larvae throughout south-central and southeastern States. THREECORNERED ALFALFA HOPPER in Oklahoma. EASTERN TENT CATERPILLAR in Florida and Oklahoma. NANTUCKET PINE TIP MOTH in Alabama.

Reports in this issue are for the week ending March 5 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING MARCH 7

Reprinted from Weekly Weather and Crop Bulletin supplied by
National Weather Service, NOAA.

TEMPERATURE AND PRECIPITATION: An intense low pressure center over northwest Utah extending eastward across the United States provoked wintry weather Monday from southern California through the northern Plains into the northern Great Lake region. Throughout the day, the storm touched off many showers with snow in California and Arizona. Some spots in California measured from one to three feet of new snow and the mountain areas of Idaho, Nevada, and Utah added up to one foot. Strong winds gusting to 50 m.p.h. whipped snow throughout portions of the Rockies and Plateau area. Along outskirts of the weather system, freezing rain and snow streamed into areas from eastern Minnesota through the Upper Great Lakes region. Showers and thunderstorms turned up from northern Illinois into northern Ohio. Stretching across the entire width of the Nation, the frontal system produced a variety of weather on Tuesday. A broad band of snow sleet and freezing drizzle extended from New England through the northern portions of the Great Lakes region into Iowa. Parts of lower Michigan waded through nearly a foot of snow which strong winds drove into drifts 2-4 feet deep. In northeast Concord, New Hampshire, accumulated 7 inches of new snow and Portland, Maine, added 4 inches. Heavy coats of ice snapped power lines and tree limbs throughout southern Michigan and the Erie, Pennsylvania, area.

Weather of the week continued on page 96.

SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - TEXAS - Larvae 0.2-1.8 per foot of drill row on small grains in Wichita County. (Boring). OKLAHOMA - Heavy in scattered wheatfields in most of western half of State week ending February 27. Destroyed several thousand acres in Kay County. Heavy in Beaver County for first time. Damage to barley, 2 per linear foot, found in Canadian County. Damaged alfalfa in Kay, Noble, Pottawatomie, and Garvin Counties. Counts of 8-10 per square foot in Harper County. (OK Coop. Sur.). KANSAS - Infested 2 of 10 Ellis County wheatfields; 0.5-inch larvae ranged trace to one per row foot. (Bell).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Counts fewer than one per 10 sweeps in most areas of San Joaquin Valley, concentrated in Dodge Hill area near Coalinga, Fresno County. (CA Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - NORTH CAROLINA - Ranged 1-5 per plant in 200 acres of barley in 5 fields in Wake County. Damage minimal but yellow dwarf disease symptoms appeared in spots. (Hunt).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Still light, 0-5 per linear foot, in Roosevelt, Curry, and Chaves Counties. Ranged 25-40 per linear foot with some associated yellowing of wheat and barley in some fields in Dona Ana and Luna Counties. (NM Coop. Rpt.). TEXAS - Counts per foot of row by county: High Plains area 400-500 in ungrazed fields, but averaged fewer than 100 in grazed fields; Hutchinson, Deaf Smith, Randall, Potter, and Donley damaging counts on 4 to 8-inch irrigated wheat; Reeves, Pecos, El Paso, and Hudspeth very light. Beneficials reduced populations in south-central area, reducing maximum counts of 1,500 in Hale County, reducing populations in most small grain fields in north area, and significantly reduced counts of 200-450 per foot of drill row in Rolling Plains. (Morrison et al.).

OKLAHOMA - Greenbug ranged 25-2,000 per linear foot in southwestern area and 50-3,000 per linear foot in west-central area week ending February 27. Counts per linear foot by county: Major, Alfalfa, Payne, Grant, Noble, Kay, and Pawnee up to 2,000; Garfield moderate; Oklahoma, Kingfisher, and Canadian scattered and heavy; Pottawatomie 0-75; Jefferson 50-150; Garvin light to moderate; McCurtain averaged 200; and Wagoner, Muskogee, and Ottawa very light. (OK Coop. Sur.). ARKANSAS - Still very light on small grains in northwest area. (Boyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - FLORIDA - About 385 nymphs and adults collected in 100 sweeps of 14-inch alfalfa at Gainesville, Alachua County, compared with 2,600 specimens 4 weeks earlier on shorter alfalfa. Reduction may be due to predator buildups. (FL Coop. Sur.). TEXAS - Light on isolated alfalfa in Pecos and Reeves Counties. (Neeb). OKLAHOMA - Moderate to heavy on alfalfa in Garvin County week ending February 27. (OK Coop. Sur.).

CORN, SORGHUM, SUGARCANE

INSECTS

CORN SILK BEETLE (*Calomicrus brunneus*) - ALABAMA - Adults heavy and cutting corn silks along border of large field at Atmore, Conecuh County. Collected by E.M. Knowles, July 9, 1975. Determined by H.F. McQueen. This is a new county record. (Knowles).

SMALL GRAINS

INSECTS

AN APHID (*Rhopalosiphum padi*) - TEXAS - Counts by county: Potter 0-25 per linear foot on wheat and Floyd 25-50 on wheat, Wilbarger up to 150, and Hale up to 200 per foot of drill row. (Patrick et al.). OKLAHOMA - Increased on wheat in west-central counties with scattered heavy infestations again present. (OK Coop. Sur.).

BROWN WHEAT MITE (*Petrobia latens*) - TEXAS - Counts by county: Floyd 50-200, Hale 200 per foot of drill row, Randall and Deaf Smith 200-300 per linear foot of wheat. (Latham et al.). NEW MEXICO - Heavy at Portales, Roosevelt County, and in Curry County. Dryland wheat still under drought stress. (NM Coop. Rpt.).

WINTER GRAIN MITE (*Penthaleus major*) - TEXAS - Increased, 60-400 per foot of drill row in Archer, Foard, Hardeman, Wichita, and Wilbarger Counties. (Boring).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - NEW MEXICO - First larvae of season on alfalfa in Chaves County. (NM Coop. Rpt.). TEXAS - First and second-instar larvae lightly infested fields in Crosby and Yoakum Counties. Some treatments begun in Fannin County. (Morrison, Turney). OKLAHOMA - Larvae infested 20-30 percent of alfalfa terminals (1-4 larvae per terminal) in several counties week of February 27. Counts by county: Muskogee up to 25 percent, Washita up to 20 percent, Garvin moderate to heavy, and McCurtain light. (OK Coop. Sur.). KANSAS - Larvae averaged 0.7 per 2-inch green stem on Shawnee County alfalfa (42 percent first instars; 58 percent second). (Bell).

ARKANSAS - First alfalfa weevil larvae of season (March 2) light on alfalfa near Fayetteville, Washington County. (Boyer). ALABAMA - First larvae of season light on tips of burclover and white clover in Lee, Macon, Tallapoosa, and Elmore Counties. (McQueen). FLORIDA - Six adults and 268 larvae (all instars) collected in 100 sweeps of 14-inch alfalfa at Gainesville, Alachua County. (FL Coop. Sur.).

VIRGINIA - Damage by overwintering alfalfa weevil larvae averaged 10 per 50 tips. (Allen). TENNESSEE - Larvae ranged from 42 per 50 tips on 5 acres of alfalfa in Davidson County to 160 per 50 tips on 15 acres in Franklin County. (Gordon, Cagle). KENTUCKY - Eggs averaged 29.4 and 22.8 February 10, and 0.54 and 21.4 February 29

per square foot in Fayette County. Alfalfa weevil adults averaged 24 per 100 sweeps in Warren County. (Barnett, Parr). INDIANA - Eggs averaged about 30 per 0.25 square foot in southwest and south-central districts sampled February 25. (Wilson et al.).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEVADA - Heavy on hay alfalfa in Virgin Valley, Clark County. Increased in Moapa Valley, Clark County. (Mills, Robison).

PEA APHID (Acyrtosiphon pisum) - OKLAHOMA - Scattered heavy infestations on alfalfa in southwest area and in Washita and Garvin Counties week ending February 27. Up to 400 per square foot. (OK Coop. Sur.). ARKANSAS - Very light on legumes, probably due to dry weather, near Fayetteville, Washington County. (Boyer).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Light on alfalfa in Muskogee County week ending February 27. First of season. (OK Coop. Sur.).

COLE CROPS

INSECTS

IMPORTED CABBAGEWORM (Pieris rapae) - TEXAS - Severely damaged cabbage in south-central area. (Cole).

DECIDUOUS FRUITS AND NUTS

INSECTS

EASTERN TENT CATERPILLAR (Malacosoma americanum) - FLORIDA - First-instar larvae on wild Prunus serotina (black cherry) at Gainesville, Alachua County, February 13. First report of year 10-12 days later than usual for area. Currently some tents one foot long; larvae up to 1.5 inches long on wild plum at Gainesville. (FL Coop. Sur.). OKLAHOMA - First larvae of season hatched February 25 on wild plum in Blaine County, 2-3 weeks earlier than normal. (OK Coop. Sur.).

CITRUS

INSECTS

A WEEVIL (Artipus floridanus) - FLORIDA - Adults heavy on leaves of 100 citrus trees at Davie, Broward County. (FL Coop. Sur.).

FERN SCALE (Pinnaspis aspidistrae) - FLORIDA - Adults heavy on leaves of citrus trees at Fort Lauderdale, Broward County. (FL Coop. Sur.).

ORNAMENTALS

INSECTS

PUTNAM SCALE (Diaspidiotus ancyclus) - ALABAMA - Collected on Prunus persica (peach) at Benevola, Pickens County, November 15, 1975, by L. Craft. Determined by M.L. Williams. This is a new county record. (McQueen).

FOREST AND SHADE TREES

INSECTS

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - ALABAMA - First of season adults emerged in large numbers 3 weeks early from infested tips of thousands of 3 to 10-foot shortleaf, loblolly, and Virginia pines for 50 miles along U.S. Interstate Highway 85 from Auburn, Lee County, to Montgomery, Montgomery County. Very little new tip growth for egg laying. (McQueen).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - MISSISSIPPI - Newly emerged adults trapped in Monroe County. (Fitzpatrick).

A PLANT BUG (Tropidosteptes pacificus) - IDAHO - Very heavy on blue ash trees at Moscow, Latah County. Collected by Portman (initial not given), August 4, 1974. Determined by J.L. Herring. This is a new State record. (Homan).

FALL WEBWORM (Hyphantria cunea) - FLORIDA - Adults appeared February 18 at Gainesville, Alachua County. (FL Coop. Sur.). TEXAS - First-generation feeding began on ash trees in gulf coast area, up to 6 webs per tree. (Robinson).

MAN AND ANIMALS

INSECTS

COMMON CATTLE GRUB (Hypoderma lineatum) - TEXAS - Adults active in north area and in Donley, Armstrong, and Potter Counties. (Green). OKLAHOMA - Heavy on cattle in McCurtain County; moderate to heavy in Comanche County week ending February 27. (OK Coop. Sur.). KENTUCKY - Larvae averaged 2.6 per animal in backs of Fayette County cattle. (Barnett).

FACE FLY (Musca autumnalis) - ARKANSAS - Specimens collected in building near Brookland, Craighead County, by J.J. Kimbrough, February 20, 1976. Determined by E.P. Rouse. This is a new county record. (Boyer).

HORN FLY (Haematobia irritans) - TEXAS - Up to 200 per head on beef cattle in Gonzales County. (Robinson).

A BLACK FLY (Simulium vittatum) - NEW HAMPSHIRE - Larvae in Strafford County beginning to pupate. Other black fly species overwintering in larval stage (Prosimulium fuscum, P. mixtum, Cnephia dacotensis, and C. mutata) abundant in streams in central and southern areas and are mostly in stages II and III of development. (Burger).

SHORTNOSED CATTLE LOUSE (Haematopinus eurysternus) - OKLAHOMA - Mainly this species heavy on cattle in Jackson, Kiowa, and McCurtain Counties week ending February 27. (OK Coop. Sur.).

LONE STAR TICK (Amblyomma americanum) - TEXAS - Very heavy on cattle in Gonzales County. (Robinson).

HOUSEHOLDS AND STRUCTURES

INSECTS

GERMAN COCKROACH (Blattella germanica) - NEVADA - Unusually heavy in several commercial buildings at Reno, Washoe County. (Ting).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - TENNESSEE - Began to swarm statewide. (Gordon, Williams).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Parasitism of Schizaphis graminum (greenbug) on wheat light in southwest and west-central counties and in few northwest and north-central counties week ending February 27. Heaviest in west-central area; a few areas up to 20 adults per linear foot. Almost complete control in one field. (OK Coop. Sur.).

A LADY BEETLE (Coleomegilla maculata) - ALABAMA - Many first to fourth-instar larvae and 1-3 adults feeding on aphids on pine trees in Lee, Macon, and Tallapoosa Counties. First adults of season. (McQueen).

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Increased slowly but still light in most wheatfields in western half of State week ending February 27. (OK Coop. Sur.).

FEDERAL AND STATE PROGRAMS

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - Situation stabilizing as far as delimiting surveys are concerned. One infestation found outside of regulated area during last 2 weeks, a disjunct find at Hallandale, about 8 miles south of main infestation at Fort Lauderdale, Broward County. Few nymphs and pupae collected from grapefruit there by D.C. Clinton and R.J. Griffith, February 23. Collected from additional hosts during last 2 weeks: Triphasia trifolia (limeberry); Syzygium jambos (roseapple); Syzygium cumini (jambolan); Flacourtia indica (ramontchi); Citrus sinensis (sweet orange). Infestation on sweet orange had been implied but not specifically mentioned. (FL Coop. Sur.).

COMSTOCK MEALYBUG (Pseudococcus comstocki) - CALIFORNIA - New almond grove find east of Tipton, Tulare County, surveyed. Signs of mealybug activity on 10 percent of almond trees within 300 feet of infested mulberry trees. Treatment applied to 4 mulberries, 2 chinaberries, and one walnut tree. (CA Coop. Rpt.).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Seven mounds found in pasture south of Papalote, Bee County, by C.L. Edgar, January 26, 1976. Two mounds found near Pittsburg, Camp County, by C.M.E. Lovett, January 28, 1976. All determined by E.B. Bauman. GEORGIA - Six mounds found at Thompson, McDuffie County, by F.R. Woodard, February 10, 1976. Determined by D.R. Smith. All new county records for both States. (PPQ).

SCREWWORM (Cochliomyia hominivorax) - Total of 29 cases reported from continental U.S. February 22-28 in Texas. Total of 20 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 130 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 78,562,950, all in Texas. Total of 88,726,500 sterile flies released within Barrier of Mexico. (Vet. Serv.).

WOOLLY WHITEFLY (Aleurothrixus floccosus) - CALIFORNIA - Eggs, nymphs, and adults on orange trees in mobile home park at Santa Ana, Orange County. Parasites released. (CA Coop. Rpt.).

HAWAII PEST REPORT

General Vegetables - TOMATO PINWORM (Keiferia lycopersicella) light on tomato and eggplant throughout Ewa and Pearl City, Oahu, during January and February. Parasitism exceeded 50 percent. Apanteles scutellaris and A. dignus (braconid wasps) accounted for nearly all parasitism. (Kumashiro).

Fruits and Ornamentals - A SOFT SCALE (Coccus elongatus) moderate on several kukui trees at Kona, Hawaii Island. Collected by R. Mau, December 12, 1975. Determined by J.W. Beardsley. This is a new island record. (Mau). BANANA SKIPPER (Erionota thrax) collected on Lanai by S. Kahoolalahala, December 23, 1975. Determined by N. Miyahira. This is a new island record. E. thrax now present on all major islands. (Trujillo et al.). Early instar larvae of CITRUS SWALLOWTAIL (Papilio xuthus) on citrus trees at Ewa, Oahu. Damage light. Surveys for the parasite Pteromalus luzonensis (a pteromalid wasp) negative on all islands. (Kumashiro). ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) becoming difficult to find. Prospaltella smithi and Encarsia sp. number 2 (eulophid wasps) continue as major parasites. (Otsuka).

Beneficial Insects - Eight adults of a BRACONID WASP (Trioxys complanatus) reared from mummies of Therioaphis maculata (spotted alfalfa aphid) collected during late February from alfalfa at Hickam Air Force Base. Second recovery for area indicates definite establishment. Increase in parasite activity expected since aphid abundant on weeds near recovery site. (Teramoto).

Miscellaneous - Several adults of a EULOPHID WASP (Encarsia variegata) reared out of whitefly pupae taken at Keauhou, Hawaii Island, December 12, 1975, by R. Mau. Determined by S.Y. Higa. This is a new island record. (Mau).

DETECTION

NEW CONTINENTAL UNITED STATES RECORDS

INSECTS

A THRIPS (Nesothrips brevicollis (Bagnall)) - FLORIDA - Adult collected from coconut (Cocos nucifera) at Coral Gables, Dade County, by J.A. Reinert, October 21, 1971. Determined by S. Nakahara. Collected in November 1974 in surveys around Miami International Airport. (FL Coop. Sur.). Known to feed on fungal spores. (Nakahara).

A THRIPS (Scotothrips claripennis (Moulton)) - FLORIDA - Adults collected from coconut (Cocos nucifera) at Coral Gables, Dade County, by J.A. Reinert, December 6, 1971. Determined by S. Nakahara. (Occurs in Hawaii, has been intercepted in quarantine from the Bahamas, Jamaica, and Mexico on coconuts and poinciana seed pods). (FL Coop. Sur.). Known to feed on fungal spores. (Nakahara).

NEW STATE RECORD

INSECTS

A PLANT BUG (Tropidosteptes pacificus) - IDAHO - Latah County. (p. 92).

NEW COUNTY AND ISLAND RECORDS

INSECTS

A LEAFHOPPER (Osbornellus clarus) - KENTUCKY - Two males collected near Cooper in Wayne County by Sperka, July 11-18, 1972. Determined by P.H. Freytag; confirmed by D. Barnett. (Barnett).

BANANA SKIPPER (Erionota thrax) - HAWAII - Lanai. (p. 94).

CORN SILK BEETLE (Calomicrus brunneus) - ALABAMA - Conecuh (p. 90).

A EULOPHID WASP (Encarsia variegata) HAWAII - Hawaii (p. 94).

FACE FLY (Musca autumnalis) - ARKANSAS - Craighead (p. 92).

PUTNAM SCALE (Diaspidiotus ancylus) - ALABAMA - Pickens (p. 91).

RED IMPORTED FIRE ANT (Solenopsis invicta) - GEORGIA - McDuffie; TEXAS - Bee and Camp (p. 93).

A SOFT SCALE (Coccus elongatus) - HAWAII - Hawaii (p. 94).

Weather of the week continued from page 88.

Centered over southeast Colorado, the intense low fixed wintry conditions over the central portions of the Rockies and High Plains. Snow was widespread from the eastern Dakotas into the central Rockies. From the southern Plains to the southern Atlantic coast, warm dry weather persisted. Temperatures ranged mostly in the 70's and 80's and zoomed to record high levels from the Ohio Valley to the middle Atlantic coast. Around midweek, the extensive weather system began pushing frigid air toward the Great Plains. Parts of Montana soon buckled under the blast of cold air (Lewistown--25 degrees)s). The severe winter storm created adverse weather conditions from Arizona through the lower Rockies across the Midwest and into the Northeast. Freezing rain and sleet iced areas from southern New England into northeast New York. A severe ice storm caused extensive damage in central lower Michigan and western New York. At the end of the day, the storm center moved over New Mexico piling more snow into the northern two-thirds of Arizona and the lower portions of the Rockies and High Plains. Nighttime shower activities triggered by a near stationary front extended from Oklahoma across the middle Mississippi and Ohio Valleys into Pennsylvania. Thursday's precipitation pattern ranged from the southern and central Plateau regions across the Rockies and eastward through the Ohio Valley into New England. Forecasters cited snow from the lower Rockies across the northern and central Plains into the western Great Lakes region. Freezing rain occurred from northeast Kansas into the lower sections of Michigan. Thunderstorms rumbled from the southern Great Lakes across the middle Mississippi Valley into the southern Plains. Cutting across the Nation, the front separated sharply contrasting air masses. In the northern Plains, temperatures halted in the teens or lower. Warm readings in the 70's and 80's that dominated the southeast United States included many record highs: Louisville, Kentucky--81 degrees, Charleston, West Virginia--80 degrees, and Evanston, Illinois--76 degrees. Boise, Idaho, at 11 degrees, claimed the record low for the day. Trailing eastward from the northern Plains, the cold front produced severe weather in the evening across the Mississippi Valley. Severe thunderstorms spawned a dozen tornadoes in Oklahoma, Missouri, Illinois, Indiana, and lower Michigan.

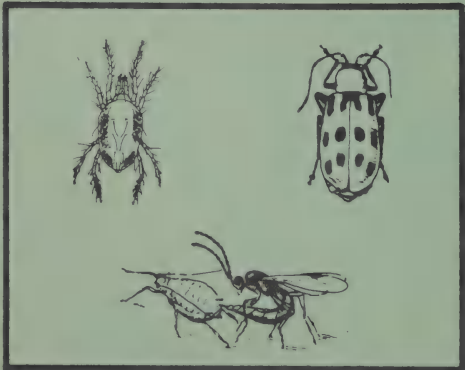
In warm air ahead of the storm, record high temperatures were reported from Maine to Virginia and as far west as Ohio. As the prolonged warmth pushed vegetation ahead of schedule, earlier than usual frost and freeze warnings were issued for portions of Arkansas, Missouri, Kentucky, and Indiana. Meantime, as warm weather in the Northeast melted snow, some scattered local flooding occurred along the Illinois and middle Mississippi Rivers. A week-end cooling trend began on Saturday morning as a cold front marking the leading edge of the cold air pushed through the Ohio Valley into the Appalachians. In only a days time, temperatures slipped as much as 30 degrees or into the 30's in parts of Kentucky and Pennsylvania. Forecasters blamed a low pressure center off the Texas coast for Sunday's onslaught of showers and thunderstorms from Louisiana into eastern Texas. Rain was especially welcome in the previously dry areas of northwest Texas. During the day, moist air from the Gulf of Mexico spread into the Nation's interior producing a wide area of rain and drizzle from the southern one-half of the Plains States into the Lower Mississippi Valley.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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Cooperative PLANT PEST REPORT



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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ALFALFA WEEVIL damaged 60-70 percent of alfalfa terminals in parts of Oklahoma and Illinois. (pp. 100-101).

Predictions

Some economic infestations of CHINCH BUG expected in parts of northern Kansas. (p. 100).

Detection

For new county and island records, see page 104.

Some First Appearances of the Season

EASTERN TENT CATERPILLAR in several southeastern States. APPLE APHID in Indiana. STABLE FLY in Oklahoma.

Reports in this issue are for the week ending March 12 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - Heavy damage continued in scattered wheatfields in Garfield, Grady, Caddo, and Dewey Counties week ending March 5. Counts by county: Kay and Wood moderate; Major 0.5-3 per linear foot, infestations in 2 small fields controlled by birds and wild turkeys; Grady 4-8 per square foot of alfalfa; Stephens heavy in early home gardens especially damaging on young onions. Current counts by county: Kay 0.5-3 per linear foot of untreated wheat; and Payne, Woodward, and Oklahoma scattered and heavy but widespread treatments almost ended in most areas; Grady 2-5 per square foot of alfalfa. (OK Coop. Sur.). KANSAS - Treatment tapered off in south-central counties; pupation probably underway. Some pupation expected soon, as far north as Clay and Cloud Counties. Larval counts by county: Cloud up to 2 per drill row foot on wheat with up to 20 per row foot in spots along field borders; Mitchell 6 per square foot in seedling alfalfa field. (Bell).

BET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Rain sufficient to germinate vegetation in breeding areas. Hoppers widely scattered except in certain areas, contributing to control problems. (CA Coop. Rpt.).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Scattered increased activity on Quay County wheat. Ranged 20-40 per linear foot in Dona Ana and Luna Counties. Dry dusty winds retarding growth. (NM Coop. Rpt.). TEXAS - Noneconomic; continued to decrease on small grains in Hill, McLennan, Bell, and Falls Counties. Light in isolated fields in El Paso, Pecos, and Reeves Counties. Biological controls continued to improve in northern area. Greenbugs ranged 1-50 per foot of drill row in Archer, Baylor, Cottle, Hardeman, Wilbarger, and Young Counties. Almost all sprays ended. Heavy beneficial populations aided decrease in Rolling Plains. (Hoelscher et al.).

OKLAHOMA - Greenbug counts per linear foot by county week ending March 5: Washita and Dewey 2,000-4,000 on scattered wheat; Major up to 7,200 in irrigated field and 0-50 in 2 dryland fields; Harmon, Canadian, and Grady 20-500; Payne and Wood heavy in scattered fields; Kay and Garfield moderate. Declined in some fields due to parasitism by Lysiphlebus testaceipes (a braconid wasp). Current greenbug counts per linear foot by county: Kay 300-2,500 on untreated wheat with alates comprising 2-5 percent; Woodward Noble, and Oklahoma continued scattered and heavy; southwest area up to 500 in untreated fields; Garvin moderate; and Tulsa light. Parasitism continued increase in many areas. (OK Coop. Sur.). KANSAS - Heaviest counts on southwest district wheat to date ranged 200-400 per drill row foot in Haskell County near Sublette. (Bell). ARKANSAS - Aphid occasionally found in northwest area. (Boyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Active in Dona Ana County; treatments may be needed if cool nights continue. (NM Coop. Rpt.). OKLAHOMA - Average counts per square foot of alfalfa by county week ending March 5: Canadian 300 and Grady 100; parasitism light. Moderate in Stephens County. (OK Coop. Sur.).

SMALL GRAINS

INSECTS

BROWN WHEAT MITE (*Petrobia latens*) - TEXAS - Heavy, 700-1,000 per foot of drill row, on small grains in Knox, Throckmorton, and Haskell Counties. Recent moisture expected to greatly reduce damage. (Boring). OKLAHOMA - Averaged 100 per linear foot in Grady County wheatfield week ending March 5. (OK Coop. Sur.).

WINTER GRAIN MITE (*Penthaleus major*) - TEXAS - Counts per foot of drill row of small grains by county: Baylor and Hardeman 7-50, and Archer and Wichita 51-700. (Boring).

TURF, PASTURES, RANGELAND

INSECTS

CHINCH BUG (*Blissus leucopterus leucopterus*) - KANSAS - Annual winter survey last half of February and first week of March showed hibernating adults ranged severe to very severe (1,000 to 2,000+ per square foot) in some samples from Brown, Washington, Clay, Cloud, McPherson, and Harvey Counties. Some economic infestations may occur in seedling corn and sorghum, especially in counties listed, but more generally in northern counties from Brown to Republic and from Republic and Washington through Harvey. (Bell).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - NEW MEXICO - Larvae and damage light in Chaves County. (NM Coop. Rpt.). TEXAS - Larvae 3-6 per square foot of alfalfa at Imperial, Pecos County. Continued to be reported in Fannin County. (Neeb, Turney). OKLAHOMA - Percent terminal infestations by county: McClain, Washita, and Caddo 50-90 on established alfalfa and 20-40 on fall-planted alfalfa; Canadian averaged 20 in one field; Grady averaged 48 in one field; Stephens heavy; and Kay moderate. Currently, larvae moderate to heavy on alfalfa in Tulsa and Garvin Counties. Damaged 60-70 percent of terminals in Kiowa, Jackson, and Greer Counties. (OK Coop. Sur.). KANSAS - Larval averages ranged 0-0.7 per green stem on alfalfa in northeast and east-central districts. Larvae mostly first and second instars with some third instars found in east-central counties. No eggs found in sample of green stems in Coffey County field. (Bell).

ILLINOIS - Alfalfa weevil larvae up to 200 per square foot in established stands of alfalfa in southern areas. Larvae mainly in first and second instar. Alfalfa 4-7 inches tall. Tip feeding averaged 60 percent in field of 5-inch alfalfa in Washington County. Large larvae averaged one per tip. Treatments recommended. (IL Ins. Rpt.). INDIANA - Larvae averaged 2.5 per plant on average of 67 percent of plants. Alfalfa averaged 2.8 inches of new growth in 5 southwest district fields. Larvae 68 percent first, 25 percent second, and 6 percent third instar. Infestations ranged 40-96 percent. (Meyer). TENNESSEE - Continued "hatch-out"; 2 fields at control levels in Davidson and Rutherford Counties. Larvae 51-53 per 50 tips. (Gordon).

NORTH CAROLINA - Averaged one alfalfa weevil larva per 10 terminals of alfalfa in Wake County; damage insignificant. Development rapid during recent mild weather. (Hunt). VIRGINIA - Infested 33 percent of tips in 10 fields sampled (159 acres) in Culpeper, Goochland, Montgomery, Powhatan, Southampton, and Wythe Counties. Average estimated defoliation 2 percent. Weevils too small to cause serious damage. (Allen).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - CALIFORNIA - First alate taken February 24 in Fresno County. Light in San Joaquin Valley. Appeared early in Imperial County; scattered treatment necessary. (CA Coop. Rpt.). NEVADA - This species and some A. pisum (pea aphid) averaged 50 per sweep on hay alfalfa in Virgin Valley, Clark County. No predators present. Low temperatures slowed increase. (Mills).

PEA APHID (Acyrtosiphon pisum) - TEXAS - Light in Pecos and Ward Counties. (Neeb). OKLAHOMA - Averaged 100 per square foot of alfalfa in Canadian and Grady Counties week ending March 5; parasitism light. Currently, pea aphid moderate to heavy on alfalfa in Garvin, Jackson, Greer, and Kiowa Counties. (OK Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

INSECTS

EASTERN TENT CATERPILLAR (Malacosoma americanum) - ALABAMA - First of season, 3 weeks early. Tents on plum and black cherry trees in Macon and Autauga Counties March 5. Larvae 1-1.25 inches long. Nine tents on cherry tree. (Wyatt). TENNESSEE - "Hatched-out" in central areas. (Bogard). NORTH CAROLINA - First tents of season on wild cherry March 10-11 in Moore, Montgomery, and Wake Counties. Tents 2-4 square inches wide (Hunt). VIRGINIA - Up to 4 tents (averaged 2) per wild cherry tree in City of Suffolk. Larvae hatched in Chesterfield County. Severe infestations expected again in 1976. (Allen).

APPLE APHID (Aphis pomi) - INDIANA - Hatched by March 4 in Vigo County, by March 8 in Dearborn County, and south of these locations by March 1. Hatching in Tippecanoe County by March 10. (Matthew, York).

ORNAMENTALS

INSECTS

A PSYLLID (Gyropsylla ilicis) - ALABAMA - First adults of season oviposited on 6 to 20-foot yaupon holly at Auburn, Lee County, March 1. Old galls on 50-75 percent of branches on 10 plants. Adults 1-3 per branch with groups of 3+ eggs deposited in bud area of new growth. (McQueen).

FOREST AND SHADE TREES

INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - KENTUCKY - Adults collected on pine near New Zion, Jackson County, by D. Barnett and D. Brock. February 26, 1976. Determined by D. Barnett; confirmed by G.L. Nordin. This is a new county record. (Barnett).

MAN AND ANIMALS

INSECTS

COMMON CATTLE GRUB (Hypoderma lineatum) - TEXAS - Adults active in Bosque, McLennan, Bell, and Lampasas Counties and in northern area. (Hoelscher, Turney). OKLAHOMA - Ranged 0-2 per head in backs of Payne County cattle. (OK Coop. Sur.). KENTUCKY - Larvae averaged 2.53 per cow in backs of Holstein cattle in Fayette County. (Barnett).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - First of season 0-3 per head on Payne County dairy cattle March 2. (OK Coop. Sur.).

SHORTNOSED CATTLE LOUSE (Haematopinus eurysternus) - OKLAHOMA - Mainly this species heavy on cattle in some Payne County areas. (OK Coop. Sur.).

SOUTHERN FIRE ANT (Solenopsis xyloni) - SOUTH CAROLINA - Collected on McCormick County farm by J.L. King, February 4, 1976. Determined by R.F. Bollinger. This is a new county record. (McCaskill).

HOUSEHOLDS AND STRUCTURES

INSECTS

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - INDIANA - First swarms of season March 8 in Vigo County. (Sillings).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Schizaphis graminum (greenbug) mummies in wheat averaged 750 per linear foot in heavily infested Payne County field week ending March 5. Adults 2-5 per linear foot with one percent parasitism in 3 Major County fields. Parasitism ranged 1-5 percent in southwest quarter of State in many untreated fields and 20-50 percent in some scattered fields. Parasitism heaviest in wheat in McClain and Beckham Counties. Current adults of this parasite ranged 4-5 per linear foot in many untreated wheatfields in Kiowa, Jackson, Greer, Harmon, and Tillman Counties. Mummies averaged about 2 percent of greenbug populations. (OK Coop. Sur.).

GREATER WAX MOTH (Galleria mellonella) - SOUTH CAROLINA - Infested about one third of 17 overwintering bee hives at Farmington, Strafford County. Larvae ranged 15-20 in one frame in infested hive. (Mason).

FEDERAL AND STATE PROGRAMS

INSECTS

A GRASSHOPPER (Leptysma hebardii) - OKLAHOMA - Female taken in dead grass along stream near Ringwood, Major County, February 26, 1976. Collected and determined by D.C. Arnold. This is a new county record. (OK Coop. Sur.).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Collected at Tivoli, Refugio County, by C.L. Edgar, September 23, 1975; at Austin, Travis County, by F.F. Gellermann, October 14, 1975; and at Alice, Jim Wells County, by E.F. Sublett, November 7, 1975. Determined by R.L. Hodgdon. GEORGIA - More than 100 mounds found on farm in Greene County by G.D. Roper, September 15, 1975. Two mounds found at Madison, Morgan County, by G. Cunard, October 20, 1975. Determined by E.B. Bauman. SOUTH CAROLINA - Collected at Woodlawn, McCormick County, by J.L. King, February 5, 1976. Determined by R.F. Bollinger. All determinations confirmed by D.R. Smith. All above are new county records. (PPQ).

HAWAII PEST REPORT

General Vegetables - All stages of GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) heavy on 0.5 acre of cucumbers at Waimanalo, Oahu. (Burkhart et al.). LEEK MOTH (Acrolepia assectella) moderate to heavy on unsprayed backyard gardens at Waimanalo, Kaimuki, and Makakilo, Oahu. LEAFMINER FLIES (Liriomyza spp.) heavy on 0.5 acre of cucumbers at Waimanalo. (Mau).

Fruits and Ornamentals - FLORIDA RED SCALE (Chrysomphalus aonidum) moderate to heavy on coconut fronds at Lihue Airport, Kauai, February 12, 1976. Collected and determined by D. Sugawa. This is a new island record. (Sugawa). A LEAFMINER FLY (Liriomyza huidobrensis) light to moderate on potted chrysanthemums at Omaopio, Maui, during February 1976. Twelve adults reared from infested leaves and determined by D.E. Hardy. According to him, this is the first record of the insect being reared in Hawaii. All previous specimens from sweep collections. (Higa).

Beneficial Insects - An ENCARTID WASP (Ooencyrtus erionotae) parasitized 80 percent of eggs and a BRACONID WASP (Apanteles erionotae) parasitized 90 percent of E. thrax larvae at Hilo, Hawaii Island. A. erionotae on Maui recovered for first time at Hana in early February. (Yoshioka, Miyahira).

DETECTION

NEW COUNTY AND ISLAND RECORDS

INSECTS

A LEAFHOPPER (Osbornellus auronitens) - KENTUCKY - Two male adults collected at large near Georgetown, Scott County, September 8, 1971, and another near Piqua in Robertson County on September 14, 1972. Collected by D. Barnett. Determined by P.H. Freytag and confirmed by D. Barnett. (Barnett).

A LEAFHOPPER (Osbornellus unicolor) - KENTUCKY - Adult male taken at large near Louisville, Jefferson County, October 4, 1975. Collected by R.C. Bakus. Determined by P.H. Freytag; confirmed by D. Barnett. (Barnett, Gregory).

FLORIDA RED SCALE (Chrysomphalus aonidum) - HAWAII - Kauai (p. 103).

A GRASSHOPPER (Leptysma hebardii) - OKLAHOMA - Major (p. 103).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Refugio, Travis, Jim Wells; GEORGIA - Green, Morgan; SOUTH CAROLINA - McCormick (p. 103).

SOUTHERN FIRE ANT (Solenopsis xyloni) - SOUTH CAROLINA - McCormick (p. 102).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - KENTUCKY - Jackson (p. 102).

CORRECTIONS

CPPR 1(1-4):3 BEET LEAFHOPPER (Circulifer tenellus) - "... Leptospartum ..." should read "... Lepidospartum ..." (CA Coop. Rpt.).

WEATHER OF THE WEEK ENDING MARCH 14

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Heavy precipitation fell mid-south during the week. Some areas in Mississippi reported an excess of 5 inches of rain. Most was accompanied by thunderstorms and several tornadoes were reported. From the southeastern Plains and southern Mississippi Valley east to the Atlantic coast and north to southern New England, over one inch of precipitation was totaled during the week. Lighter amounts of rain or snow fell over most of the rest of the country. Precipitation over winter-wheat country, western Kansas and Oklahoma and the Texas Panhandle, was spotty and only light amounts were recorded. The average temperature departures from normal were moderate over most of the country.

TEMPERATURE AND PRECIPITATION: A variety of widespread precipitation highlighted the national weather map at the beginning of the week. In colder northern air, snow fell Monday morning from south-east Colorado across northern Kansas into southern Nebraska and portions of the Texas Panhandle. Around midday, thunderstorms came to life along the central gulf coast focusing the heaviest rains on southwest and central Mississippi where Jackson measured 8.5 inches. Responsible for the deluge was a low pressure center over central Louisiana that moved slowly northeastward producing rain and drizzle from southeast Kansas and northeast Oklahoma into the lower half of the Mississippi Valley. Many showers and thunderstorms cut a path to the southern half of the Atlantic coast. Rising rivers testified to storm activity in Arkansas and southern Oklahoma. Three tornadoes erupted when thunderstorms passed through southeast Texas. One twister that struck south of Houston caused extensive damage and several injuries.

Meantime, mostly clear skies favored the western United States except the Pacific coastal areas. A few rain showers with snow turned up in higher elevations over northern California and southwest Oregon. Lazily moving northward, the coastal storm system trailed wet weather across the Atlantic Coast States on Tuesday. Rain persisted from southern Missouri and northern Arkansas into the Carolinas and north along the coast. Inclement conditions at midday included snow from the Washington, D.C., area northward into New York and the central Appalachians. Southward, rainfall extended from Virginia through the Carolinas, a few showers and thunder-showers appeared over Georgia, Florida, Tennessee, and Kentucky. During the day, the storm center advanced through the Carolinas piling heavy snow over portions of Maryland, Virginia, Delaware, and Pennsylvania. By evening, significant snowfall blanketed a number of the major eastern cities: Baltimore, Maryland--8 inches, Providence, Rhode Island--7 inches, and Philadelphia, Pennsylvania--6 inches. Only flurries remained in New York, Pennsylvania, and southern New England on Wednesday when the storm finally moved out to sea. As the coastal system departed, however, another storm was brewing in the central Rockies. Forecasters put portions of Wyoming and Colorado on lookout for severe weather. Most precipitation Wednesday occurred as snow over the Great Lakes region and rain from the lower Lakes into the Ohio and middle Mississippi Valleys. Daytime temperatures in the mid 30's prevailed along mid-Atlantic

coast into southern New England. Gathering strength overnight, low pressure over Montana shifted southeastward. Light snow drifted into North Dakota. In the Northeast, a cold front carried rain and snow showers from New Hampshire and Vermont across New York and from Pennsylvania into Ohio and West Virginia.

Gusty winds, falling temperatures, and snow accompanied Thursday's winter storm as it moved into northeast North Dakota. Snowfall encompassed the northern sections of the Rockies and Plains into the Upper Great Lakes region. Thunderstorms, some locally heavy, along with showers developed during the day from central Texas northward into the central Plains and middle Mississippi Valley. As the day progressed, wind gusts to 50 m.p.h. created blizzard conditions in North Dakota where drifting blowing snow sharply lowered visibilities and temperatures. The dangerous March snowstorm was trampling the upper Midwest early Friday. Blizzard warnings were posted in Minnesota and Wisconsin during the day and into Michigan by night. Wind gusted to 60 m.p.h. in eastern Nebraska and blowing dust was reported from southwest Kansas into eastern Nebraska. The storm, moving eastward, produced thunderstorms and some tornado activity in Illinois and Indiana. Scattered showers and some thunderstorms continued from Mississippi to the Carolinas. Freeze warnings were posted for northern Arkansas and much of Oklahoma.

Saturday morning, heavy snow had moved into New England as skies began to clear over Wisconsin. Flooding was reported from the Mississippi Valley through the southeast due to heavy thunderstorms. Freeze warnings were posted for the mountains of western Maryland and North Carolina as the cold air replaced unseasonable warm air that had prevailed. As one storm moved out of the Nation in the East, another moved into the Pacific Northwest on Sunday repeating the earlier cycle. The rapidly moving system reached the Colorado mountains late in the day and began to repeat snow and high wind occurrences. Periodic rain and showers continued throughout most of gulf coast region.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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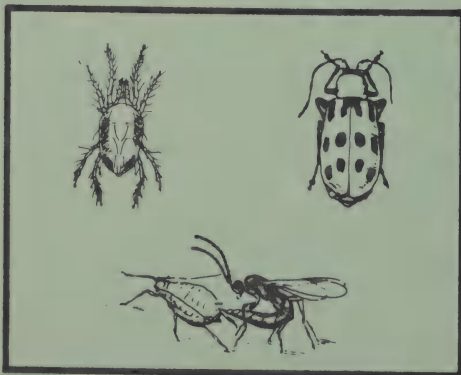
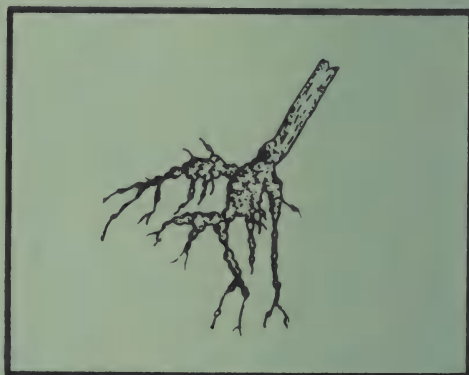


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March 26, 1976

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Cooperative PLANT PEST REPORT

PRODUCTION SECTION
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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

GREENBUG 1,000 or more per foot of wheat in Oklahoma and Kansas. (p. 109).

No survival of BOLL WEEVILS in Washington County, Mississippi. (pp. 110-111).

Detection

An ICHNEUMONID WASP is new for Wisconsin. (p. 113).

For new county and island records, see page 115.

Confirmed new host record of an ICHNEUMONID WASP in Wisconsin. (p. 113).

Some First Appearances of the Season

SMALLER EUROPEAN ELM BARK BEETLE in California. WHITEFRINGED BEETLES in Alabama.

Special Reports

Mediterranean Fruit Fly Impact in Central America. (pp. 117-118).

Reports in this issue are for the week ending March 19 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING MARCH 21

Reprinted from Weekly Weather and Crop Bulletin supplied by
National Weather Service, NOAA.

TEMPERATURE AND PRECIPITATION: The winter storm system that high-lighted Sunday's weather report spread snow from the central Rockies into the central Plains Monday. In the southern regions, shower activity intensified and by noon extended from eastern Texas and Arkansas through the Carolinas and Georgia. Encouraged by locally heavy rains, some lowland rivers throughout the area spilled over their banks. Daytime precipitation included scattered snow across North Dakota, Minnesota, and Upper Michigan and light rain and drizzle in southern Missouri, Oklahoma, and northern Arkansas. Snowfall in the Midwest encompassed the eastern part of Kansas across northern Missouri into western Illinois. Evening brought still another wintry blast, this one took shape over the lower Mississippi Valley. Anticipating the storm's northeastward movement, forecasters posed weather warnings from northern West Virginia through northern Delaware. This latest disturbance stirred up a variety of unfavorable weather across much of eastern United States on Tuesday. Centered over southwest Pennsylvania, a strengthening storm spelled trouble for areas from the central Appalachians into New England. In just 6 hours Wilmington, Vermont, accumulated 7 inches of snow, Albany, New York, 6 inches, and Hartford, Connecticut, 5 inches. Though the storm system headed out to sea, in the evening, strong winds

SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - COLORADO - Retarded fall-seeded alfalfa at Grand Junction, Mesa County. (Higgins). KANSAS - Damage light, larvae up to 1-2 per drill row foot, on some wheat in Rawlins, Sheridan, and Gove Counties. Some treatments still applied in Cloud, Mitchell, Ottawa, and Saline Counties. (Bell). OKLAHOMA - Scattered heavy infestations still on wheat in Kay, Noble, and Major Counties. Very light in Cimarron County. (OK Coop. Sur.).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Still widely scattered throughout breeding grounds except on Dodge Hill (Coalinga area), Fresno County, where some concentration occurred. Present in survey of west breeding grounds, Kern County, at Buena Vista and "25" Hills near Taft. Averages of 1-2 per 10 sweeps in Little Elkhorn Valley. Most breeding grounds favorable for concentration in specific areas. Averaged fewer than one per 100 sweeps of winter annuals in breeding grounds in Imperial County during poor weather. No curly top in melon or tomato fields checked. Most tomatoes 4-7 inches. (CA Coop. Rpt.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Up to 2,500 per linear foot on some irrigated wheat in north-central Texas County. Very light in other areas of this county and in Beaver and Cimarron Counties. Counts by county: Kay, Noble, Major, and Oklahoma still up to 1,000; Garfield moderate; Delaware and Ottawa light. (OK Coop. Sur.). KANSAS - Rapid buildups on scattered wheat in southern counties of southwest district; some economic infestations in Haskell, Seward, and Clark Counties; some treated. Counts per drill row foot by county: Haskell up to 3,000 per drill row foot killed wheat in spots of a field; Seward up to 800; Clark 1,000. (Bell).

SMALL GRAINS

INSECTS

PALE WESTERN CUTWORM (Agrotis orthogonia) - OKLAHOMA - Fewer than one per linear foot in most Cimarron County wheat. (OK Coop. Sur.).

BROWN WHEAT MITE (Petrobia latens) - OKLAHOMA - Ranged 50-200 per linear foot on scattered wheat in Cimarron, Texas, and Beaver Counties. (OK Coop. Sur.).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Larvae collected on alfalfa north of Las Cruces, Dona Ana County by E. Huddleston, March 18. Determined by E. Huddleston and Durking (no initial given). First larval find on alfalfa in the county. (NM Coop. Rpt.). OKLAHOMA - Tip infestations averaged by county: Ellis 75 percent on fall-seeded alfalfa and 30 percent on established alfalfa; Muskogee, Haskell, Le Flore, and Osage 2-45 percent. Counts in other counties: Delaware and Ottawa 50 larvae per square foot;

Grady and Oklahoma heavy. (OK Coop. Sur.). KANSAS - Hatched as far north and west as Marshall and Washington Counties. Some larvae on Clark County alfalfa. (Bell).

KENTUCKY - All larval stages, mostly second and third instars, in Lincoln and Warren Counties week of March 16. Damage nearing economic level. Larvae apparently not bothered by frost on some Shelby County alfalfa plants. (Christensen). INDIANA - Larvae 3 per infested stem on 3-inch alfalfa by March 12, a heavy infestation on short alfalfa this early in season. (Sutton et al.).

MARYLAND - First larvae of season on alfalfa in Harford, Howard, and Frederick Counties week ending March 12. These first-instar larvae, 1-3 per 100 tips, usually die after cold weather. Significant population and hatch not expected until last week in March or first week in April. (U. Md., Ent. Dept.). VIRGINIA - Infested 42 percent of tips in 11 fields (152 acres) in Botetourt, Culpeper, Goochland, Montgomery, Powhatan, Washington, and Wythe Counties. Average estimated defoliation 5.4 percent. Weevils still too small to cause serious damage in many fields. (Allen).

FLORIDA - Increased to highest level in several years on alfalfa at Gainesville, Alachua County, but still light. Counts of 27 adults and 506 larvae of all instars collected in 100 sweeps of alfalfa in early bloom. (FL Coop. Sur.).

CLOVER LEAF WEEVIL (Hypera punctata) - KENTUCKY - Larvae very heavy in Lincoln County field week of March 16. Ranged 3-5 per plant; treatment planned. Usually controlled by diseases. (Christensen).

MEADOW SPITTLEBUG (Philaenus spumarius) - INDIANA - Early instars infested average of 8 percent of alfalfa fields in Harrison County March 12. Trace on alfalfa in Jackson County by March 13. (Meyer).

COTTON

INSECTS.

Boll Weevil Survival Survey - Spring 1976 Washington County, Mississippi

Spring collections of surface ground trash samples (two square yards per sample) were made March 1 in Washington County, Mississippi, to determine the number of boll weevil (Anthonomus grandis) adults per acre of ground trash examined and the percent of survival.

For purposes of this survey, 3 samples were taken from each of 8 locations. Fall collections were not made in 1975.

No boll weevils were found in spring 1976 for the fourth year since spring sampling began in 1956 in Washington County. Previous years with no boll weevils were 1963, 1970, and 1974.

Results were also negative in trash samples from additional 10 locations in this county on March 3, 4, and 11.

The winter of 1975-1976 has not been very severe. Lowest temperature was 14 degrees F. on January 8 and 9. Mean temperature of 41.5 degrees F. for January made it the ninth coldest January in 46 years and the lowest January mean temperature since 1970.

Total of 18.07 inches of rain from November 1 to February 29 should have been more than adequate to prevent desiccation.

One possible explanation for the apparent low weevil population this spring could be an effective indirect diapause control program. Cotton was late in all stages of development in 1975. Heliothis spp. pressure was heavy over much of the area, particularly during the latter part of the season. Insecticide applications were made later than normal for Heliothis control and may have constituted an effective boll weevil diapause control program. (Pfrimmer et al.).

POTATOES, TOMATOES, PEPPERS

INSECTS

TOMATO PINWORM (Keiferia lycopersicella) - FLORIDA - Larvae fed on potato leaves throughout potato region of several thousand acres at Homestead, Dade County, from February to date. No treatments so far. Usually uncommon or scarce on potatoes in this area. (FL Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

INSECTS

CHESTNUT GALL WASP (Dryocosmus kuriphilus) - GEORGIA - First galls of season found March 3 at Byron, Peach County, probably due to unusually warm spring. About 200 new galls per tree on 5 Chinese chestnut trees 15-25 years old in yard at Payne, Houston County, March 7. Site is 15 miles east of original infestation. Observed and determined by J.A. Payne. This is a new county record. No galls present in 1975 and no old galls observed this year. Galls appear before leaves unfold. (Payne).

CITRUS

INSECTS

CITRUS WHITEFLY (Dialeurodes citri) - FLORIDA - Adults averaged 20-25 per leaf on new growth of several dooryard calamondin trees at Gainesville, Alachua County. (FL Coop. Sur.).

SMALL FRUITS

INSECTS

A TREE CRICKET (Oecanthus rileyi) - OREGON - Oviposition scars on 20 acres of red raspberry at Forest Grove, Washington County. Eggs in about 20-25 percent of canes on 10 acres; damaged 1-5 percent of canes in remaining half of field. (Collins, Fisher).

ORNAMENTALS

INSECTS

AN ARMORED SCALE (Lepidosaphes yanagicola) - MARYLAND - Infested all Euonymus alatus in Cecil County nursery by February 26, 1976. Collected by P.G. Bystrak et al. Determined by W.F. Gimpel. This is a new county record. (U. Md., Ent. Dept.).

FOREST AND SHADE TREES

DISEASES

SHOESTRING ROOT ROT (Armillaria mellea) - WISCONSIN - Pockets very conspicuous in Jackson County on white, red, and jack pines where oak overstory killed by herbicides or mechanical girdling. Mostly pine seedlings and saplings dead. (WI Ins. Sur.).

INSECTS

WESTERN SPRUCE BUDWORM (Choristoneura occidentalis) - NEW MEXICO - Area of damage continued to widen. New population taken from Ranchos Canyon area in Sangre de Cristo Mountains, Taos County. (NM Coop. Rpt.).

AN ARMORED SCALE (Diaspidiotus coniferarum) - FLORIDA - Adults collected on stems and leaves of Cedrus sp. (a cedar tree) in nursery at Callahan, Nassau County, by A.E. Graham and C.H. Webb, February 10, 1976. Determined by G.W. Dekle. This is a new county record. (FL Coop. Sur.).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - ALABAMA - Excessive early hatching during February warm weather brought on unusual movement of full-grown to nearly grown larvae. Consumed all leaves on cherry, plum, and other trees in Geneva and several other south and central counties. Larvae 1.75 inches long. Now is normal time for overwintering eggs to begin hatch. (Gary et al.). NORTH CAROLINA - Active as far west as Statesville, Iredell County, and Winston-Salem, Forsythe County. Webs averaged 4 square inches about one week earlier than in 1974. Averaged 2 webs per wild cherry tree. (Johnson).

OBSCURE SCALE (Melanaspis obscura) - FLORIDA - Moderate. Collected on stems of Quercus laurifolia (laurel oak) at Clewiston, Hendry County, by C.E. Nelson, March 4, 1976. Determined by G.W. Dekle. This is a new county record. (FL Coop. Sur.).

A SIRICID WASP (Eriotremex formosanus) - FLORIDA - Adult picked off from mature longleaf pine tree (Pinus palustris) destroyed by Ips spp. in Calhoun County September 12, 1974. Collected by G.D. Hertel. Determined by H.N. Greenbaum and E.E. Grissell. This is a new county record. (FL Coop. Sur.).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - FLORIDA - Adults averaged 116 per animal on beef herd at Gainesville, Alachua County, week ending March 12. Above economic (100 per head) level. (FL Coop. Sur.). OKLAHOMA - Averaged 20 per head on Payne County cattle. (OK Coop. Sur.).

FACE FLY (Musca autumnalis) - NEVADA - Collected in house 5 miles west of Gardnerville, Douglas County, March 17, 1976, by W. Peterson. Determined by R.C. Bechtel. This is a new county record. (Peterson).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Adults active in Comanche and Payne Counties. Occasional larva still found in backs of Payne County cattle. (OK Coop. Sur.).

A MOSQUITO (Anopheles freeborni) - NEVADA - Overwintering females abundant and active in southeastern Reno, Washoe County, during early warm weather. (Kamm, Minedew).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ICHNEUMONID WASP (Bathyplectes curculionis) - WISCONSIN - This major parasite of Hypera postica (alfalfa weevil) confirmed by R.W. Carlson from following counties: Eau Claire, Door, Dane, Rock, Green, and Grant. All collected by M.S. Conrad in fall 1975. First confirmed identifications although encountered for several years in these and other counties. Percentage of H. postica parasitized by B. curculionis declined from 81 percent in 1973 to 23 percent in 1975. Hyperparasitism suspected as one cause of recent decline, but B. curculionis cocoons collected in fall 1975 affected by predation (0-100 percent), viral or bacterial infection (0-33 percent), and fungal infection (0-50 percent). (WI. Ins. Sur.).

AN ICHNEUMONID WASP (Mesochorus agilis) - WISCONSIN - This hyperparasite emerged from cocoon of B. curculionis collected in fall 1975 by M.S. Conrad in Sheboygan County. Determined by R.W. Carlson. This is a new State record. Mesochorus sp. previously reported from State. (WI Ins. Sur.).

AN ICHNEUMONID WASP (Gelis sp.) - WISCONSIN - This hyperparasite collected from cocoon of B. curculionis collected in Dane County, fall 1975, by M.S. Conrad. Determined by R.W. Carlson. First confirmed report in State from this host (Previous unconfirmed report from this host and few reports of this genus from other hosts in northern counties). (WI Ins. Sur.).

A PTEROMALID WASP (Sceptrothelys grandiclava) - WISCONSIN - This hyperparasite collected from cocoon of B. curculionis collected in Lafayette County, fall 1975, by M.S. Conrad. Determined by G. Gordh. This is a new county record. (WI Ins. Sur.).

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Continued increase in Schizaphis graminum (greenbug) infested wheat in many areas. Parasitism found in western half of State. (OK Coop. Sur.).

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Ranged 5-10 per sweep of alfalfa in Delaware and Ottawa Counties. Continued increase in wheat in most areas. (OK Coop. Sur.).

FEDERAL AND STATE PROGRAMS

INSECTS

GYPSY MOTH (Lymantria dispar) - MARYLAND - Egg mass survey negative in Baltimore and Montgomery Counties February 10-27. Ten of 60 sites positive in Cecil County week ending March 12. Egg mass survey to continue in Cecil County. (U. Md., Ent. Dept.).

SCREWWORM (Cochliomyia hominivorax) - Total of 16 cases reported from continental U.S. February 29 to March 13 in Texas. Total of 208 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 363 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 188,462,975; all in Texas. Total of 142,497,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - First emergence of season, 3 adults in pheromone traps in Sonoma County week of March 12. Trees being sprayed as preventive measure. All infected and adjacent trees removed in quarantine areas. Wood pile survey underway. Warm spring-like days continue as trees rapidly break dormancy. (CA Coop. Rpt.).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - First larvae of season found March 10 had destroyed 2 acres of newly set tomato plants at Ashford, Houston County. (Davis, Stephenson).

HAWAII PEST REPORT

General Vegetables - Infestations and damage by a LEAFMINER FLY (Liriomyza sp.) heavy in 4 acres of tomato at Kihei, Maui, and in 0.5 acre at Waianae, Oahu. Mines destroyed at least 75 percent of leaf area. Light in acre each of squash, snap beans, and cucumber, 0.5 acre of tomato, and 2+ acres of green onions at Waianae and Pearl City, Oahu. (Otsuka et al.). ONION THRIPS (Thrips tabaci) nymphs and adults moderate, 15-30 per mature bulb onion; foliar damage light. (Miyahira). Heavy WEST INDIAN SWEETPOTATO WEEVIL (Euscepes postfasciatus) infestations and damage in 0.25 acre of sweetpotatoes at Waianae. Larvae and adults heavy. About 60-75 percent of harvested crop not marketable. (Mau).

Fruits and Ornamentals - BROAD MITE (Polyphagotarsonemus latus) moderate to heavy on 75-100 potted Impatiens at Waianae. All stages noted on terminals with severe damage. Infestations similar in 30 acres of passionfruit at Kahuku, Oahu. Infested terminals ranged 10-15 percent. Eggs ranged 60-75+ per two inch terminal, mites 30+ per terminal. Light BEET ARMYWORM (Spodoptera exigua) damage and infestations (less than 5 percent of leaves) noted in 4+ acres of green onions at Waianae. (Mau).

DETECTION

NEW STATE RECORD

INSECTS

AN ICHNEUMONID WASP (Mesochorus agilis) - WISCONSIN - Sheboygan County. (p. 113).

NEW COUNTY AND ISLAND RECORDS

INSECTS

ARMORED SCALES: Diaspidiotus coniferarum - FLORIDA - Nassau (p. 112); Lepidosaphes yanagicola - MARYLAND - Cecil (p. 111).

CHESTNUT GALL WASP (Dryocosmus kuriphilus) - GEORGIA - Houston (p. 111).

FACE FLY (Musca autumnalis) - NEVADA - Douglas (p. 112).

OBSCURE SCALE (Melanaspis obscura) - FLORIDA - Hendry (p. 112).

A PTEROMALID WASP (Sceptrothelys grandiclava) - WISCONSIN - Lafayette (p. 113).

A SIRICID WASP (Eriotremex formosanus) - FLORIDA - Calhoun (p. 112).

still swept blowing and drifting snow throughout the area creating near blizzard conditions. Snow persisted into early nighttime hours from Michigan and the eastern Ohio Valley into the central and northern Appalachians and over the northern Atlantic Coast States. In the Southeast, thunderstorms spawned damaging tornadoes in South Carolina and Georgia and golf ball-size hail in central Mississippi. Northward, snow mixed with rain at times, ranged from Ohio and eastern Kentucky through most of Pennsylvania and New York into southern New England. Thanks to the wintry blast that lashed the Northeast, total new snowfall at midweek ranged from 10 to 11 inches in Massachusetts, 7 to 14 inches in Vermont, and 10 to 14 inches over the New York Adirondacks. Target of the heaviest snow, Maine average 8 to 14 inches with up to 2 feet of snow in the mountains. Meantime, a cold front moving through the Pacific Northwest and northern California triggered many showers and a few thundershowers along the coast. Moving through the Midwest a warm front produced light, scattered snow in Minnesota and Wisconsin.

Significant warming occurred in the Plains States, temperatures pushed into the 50's and 60's in the Dakotas and Montana and in some parts warmed as much as 20 degrees. Gusty winds, plunging temperatures, and rain changing to snow marked the beginning of various weather in the Northwest from Thursday's developing storm center. As the day progressed the rapidly moving frontal system thrust inland spreading showers from the northern and central Pacific coast into the northern Rockies. Daytime skies were generally fair over the southeast lower half of the Mississippi Valley, the Plains and the Southwest. Other wide precipitation included snow across the eastern end of the Great Lakes region and rain mixed with snow along the mid-Atlantic coast. The extreme Northeast remained cold, high temperatures in the northern portions of New York and New England halted in the teens and 20 degrees.

Even with spring's official arrival just around the corner, the winter storm took a few more hearty swings at the West Friday. Then churning across the Nation's interior, the cold front generated gusty conditions from the eastern Rockies into the Mississippi Valley. Damaging winds topped 85 m.p.h. in several spots in Colorado and even reached 101 m.p.h. along the eastern slopes of the Rockies. Air blasts throughout the Rockies and Plains that commonly exceeded 40 m.p.h. stirred up dust and sharply reduced visibilities. Areas ahead of the frontal system from the southern Plains to the Great Lakes region claimed record high temperatures. The Nation's hot spot, Wichita Falls, Texas, reported a record 94 degrees. Other record breakers: Omaha, Nebraska--85 degrees, Madison, Wisconsin--76 degrees, and Baltimore, Maryland--73 degrees. On Saturday, the vigorous cold front denied spring's arrival in North Dakota where winds gusts produced blowing and drifting snow that slashed visibilities and sent the chill factor as low as minus 30 degrees. Meantime, the first day of spring brought severe weather to the central United States. Ahead of the cold front, many tornadoes and heavy thunderstorms ravaged an 11-State area from Missouri to Louisiana through Michigan and Ohio to Alabama. Not until claiming 4 lives and more than one million dollars in property damage did the storm finally abate Sunday east of the Mississippi River. Showers and thunderstorms that accompanied the intense frontal system as it pushed eastward stretched from Maine through the Atlantic Coast States and along the Gulf coast from Florida to southern Texas. Late in the afternoon, the disturbance moved out to sea ending the severe weather threat.

Mediterranean Fruit Fly Impact
in
Central America 1/

Carlos Meyer Arevalo 2/

The Mediterranean fruit fly (*Ceratitidis capitata* Weidemann)), known throughout the world as one of the most terrible pests of fruit crops, was detected in Costa Rica in 1955. Although the Department of Agriculture of that country and the newly founded Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA) took immediate action to control and delimit this pest, survey showed in 1956 that Medfly was already in all of the central plateau and other areas of the country, but because of the lack of resources, the action required for its eradication was not taken.

At this point, OIRSA had to change its plans, devoting part of its budget to trapping and prevention programs at the borders between Costa Rica and Nicaragua, and retaining the responsibility for the coordination of quarantine and preventive activities at a regional level to prevent spread of the fly to all the other countries of Central America, Panama, and Mexico.

In spite of these actions, in January 1960 the first specimens of Medfly in Nicaragua were detected and again no money could be raised for an eradication program and the fly soon infested all major fruit-producing areas in the central part of the country.

The same year, OIRSA's biological control section was started. By 1963 an internal quarantine program between OIRSA and Nicaragua was established in that country 14 miles north of Managua on the Pan-American Highway to prevent the fly moving from the central infested area to the border between Nicaragua and Honduras.

In the same year, Medfly was spotted in Panama, along its border with Costa Rica. OIRSA initiated control programs in north Panama and established a quarantine checkpoint in David, Chiriquí, to stop infested-fruit flow to pest-free areas within Panama.

During 1963-1964, OIRSA increased its cooperative investigation program for control and possible eradication of Medfly, which included laboratory facilities in San Jose, Costa Rica. The laboratory had a capacity of rearing 15 million sterile flies a week for liberation trials at Puntarenas; in the following years the insect rearing facility reached its top production of 200 million sterile flies per year. Also, research on low volume aerial application was conducted in central Nicaragua.

1/ Amended from a paper presented by Ing. Eduardo Rios Martinez, Dirección General de Sanidad Vegetal, Mexico, at the annual meeting of the Entomological Society of America, New Orleans, Louisiana, on December 3, 1975.

2/ Organismo Internacional Regional de Sanidad Agropecuaria, San Salvador, El Salvador.

In 1972 a cooperative trapping program between OIRSA and the Honduras Department of Agriculture was started.

As the Medfly situation worsened in northern Nicaragua, a new infestation was detected just 11 miles from the border with Honduras. On April 2, 1975, OIRSA got news of a suspected infestation 5 miles north of Ilopango International Airport, San Salvador, El Salvador. A meeting was held between the El Salvador Department of Agriculture and OIRSA the next day, and agreement was reached on a joint program to identify the specimens collected and to delimit the infested area by intensive trapping. Four quarantine posts were set up to stop fruit flow from the infested areas.

This new information was given out to all countries of OIRSA's work area. Specific recommendations were developed for reinforcing quarantine inspection and trapping in Guatemala and Honduras along their boundaries with El Salvador. OIRSA kept the countries posted continually on new developments.

At a meeting between OIRSA and El Salvador's Department of Agriculture on April 7, an emergency was declared. The distribution of traps was revised to cover all of El Salvador with emphasis on the main access routes to Guatemala and Honduras. In the following days, Medfly infestation was confirmed to have spread throughout El Salvador.

On April 23 the Honduras Department of Agriculture reported Medfly infestations in several isolated spots in areas adjacent to El Salvador.

On April 25 the Guatemala Department of Agriculture also discovered several Medfly infested spots in the area next to El Salvador.

To allow the implementation of a program to stop the spread of Medfly by reducing populations, international cooperation is required. OIRSA has increased its negotiations with the United States Department of Agriculture (USDA), holding meetings with USDA and representatives of the U.S. citrus industry.

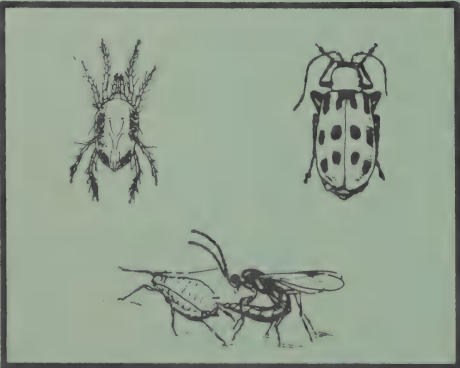
OIRSA's proposals have been looked upon favorably by USDA. To solve this mutual problem, joint effort by the United States, OIRSA, and its participating countries is needed. Such action will be of positive benefit for regional fruit production.

U.S. Dept. Agr.
Coop. Plant Pest Rpt.
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UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
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Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ALFALFA WEEVIL damage 50 percent and higher in Kansas, Oklahoma, and Illinois. (p. 122).

Detection

For new county records, see page 126.

An ARMORED SCALE on new host in Virginia. (p. 124).

Some First Appearances of Season

ARMY CUTWORM in Kansas. CEDAR-APPLE RUST in Tennessee. AMERICAN DOG TICK in Oklahoma. GRASSHOPPERS in Oklahoma.

Special Reports

The 1976 outlook for GRASSHOPPERS based on the 1975 adult survey. See centerfold map.

Mediterranean Fruit Fly. Mexico - United States Cooperative Program. (pp. 127-129).

Corrected separates of "Estimated Losses and Production Costs Attributed to Insects and Related Arthropods - 1974" are available upon request.

Reports in this issue are for the week ending March 26 unless otherwise indicated.

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Grasshopper Adult Survey Fall 1975 (Centerfold).	

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

APRIL 1976

The National Weather Service's 30-day outlook for April calls for temperatures to average below seasonal normals in the southern and central parts of the Mississippi Valley, Great Plains, and Rocky Mountains. Above normal temperatures are expected in the Northeast, the Florida Peninsula, south Texas, the California coast, and the northern Great Basin and Rockies. Near normal temperatures should occur elsewhere. Precipitation is expected to fall short of the median amounts in the Northeast, the Florida Peninsula, the northern Great Plains, and all areas west of the Continental Divide. The remaining central and eastern areas should get more than median amounts.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service.

SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - Larvae still on wheat and alfalfa in some areas, many in prepupal stage and not feeding. Damage light in some scattered areas. Moderate to heavy counts damaged gardens in Washita and Caddo Counties. (OK Coop. Sur.). KANSAS - First report of season. Decreased on south-central area wheat due to treatments and full-grown larvae, many prepupae found. Larvae heavy in grass pastures at Big Basin, Clark County. (Bell).

ASTER LEAFHOPPER (Macrosteles fascifrons) - FLORIDA - Still light, 2 adults per 100 sweeps on nearly mature oats at Gainesville, Alachua County. (FL Coop. Sur.).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - All nymphal stages on small selected breeding sites near Arbuckle, Colusa County, and Antioch, Contra Costa County. Hatch delayed south of Tracy, San Joaquin County, due to late germination of hosts. Counts light and scattered throughout breeding areas from Los Banos south to Cantua Creek, Fresno County. Host vegetation erratic. Eggs ranged 0-3 per female checked. Populations ranged 4-18 per 100 sweeps. Number of eggs per female increased. Late frost did not burn hosts enough to affect population. Beet leafhoppers fewer than 2 per 10 sweeps on favorable slopes and flats in Kern County. Egg production increasing, 2-7 per female noted. Sparse vegetation becoming more favorable daily. Breeding grounds favorable in nearly all areas checked. Light counts throughout favorable sites will produce lighter than normal population. (CA Coop. Rpt.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Counts per linear foot by county: Jackson, Tillman, Greer, and Kiowa up to 400 on scattered wheat; Kay 20-450; Craig and Ottawa up to 30 in small spots in some fields; Muskogee, Haskell, and Le Flore 0-20; at Adams, Texas County, heavy in spots in some fields; Garfield, Bryan, and Pontotoc moderate; Dewey, Ellis, Harper, and Woodward very light; Logan light; Garfield heavy infestation destroying barley field. (OK Coop. Sur.). KANSAS - Scattered economic infestations on wheat in Cowley, Harper, and Barber Counties. Very variable throughout area. Most serious, up to 2,000 per drill row foot, in southeast Barber and southwest Harper Counties from Kiowa to Anthony; much treating done. Some treatment in southeast Cowley County. (Bell).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Increased, 200 per 25 sweeps of Dona Ana County alfalfa. (NM Coop. Rpt.). OKLAHOMA - Scattered heavy infestations on untreated alfalfa in Jackson, Greer, Kiowa, and Tillman Counties. Light in several west-central counties and Woodward County. (OK Coop. Sur.).

SMALL GRAINS

INSECTS

BROWN WHEAT MITE (Petrobia latens) - TEXAS - Counts of 150 per foot of drill row on small grains in Foard and Hardeman Counties. (Boring). OKLAHOMA - Heavy, 1,250-2,000 per linear foot, in spots on isolated wheat in Jackson and Greer Counties. Infested spots,

5-20 acres, increasing. Petrobia latens light, 10-150 per linear foot, in most fields in Dewey, Ellis, Harper, and Woodward Counties. (OK Coop. Sur.).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - KANSAS - Nearing economic levels in some alfalfa in southeastern counties of southeast district. Some early treating underway in Elk, Chautauqua, and Wilson Counties. Larvae 2-4.5 per green stem with damage to 60-80 percent of terminals. Pupation and some adult emergence in Chautauqua and Elk Counties. Weevil development about 4-5 weeks more advanced than in 1975. (Bell). OKLAHOMA - Percent of infested alfalfa terminals by county: Southwest area 4-60, west-central area up to 100, Osage 50-75, Kay 20-50, Tulsa 60-70. Heavy in Pontotoc County. Averaged 24 percent in Woodward County. Larvae 40-50 per square foot in Grady County and averaged 7 per square foot in treated Noble County field. (OK Coop. Sur.).

ARKANSAS - Alfalfa weevil larval feeding general in all areas where alfalfa grown week ending March 19. Treatments applied in Arkansas River Valley, Logan County, and in some fields in Benton, Carroll, Madison, and Washington Counties. Larvae 3-4 per plant terminal in some Benton County fields. Larvae currently increased, 500 per 100 sweeps, on farm near Fayetteville, Washington County. (Boyer). MISSISSIPPI - H. meles (clover head weevil), H. nigrirostris (lesser clover leaf weevil), and H. postica (alfalfa weevil) heavily infested crimson clover in Oktibbeha County. (Smith).

ILLINOIS - Alfalfa weevil increase continued. Terminal feeding 10-80 percent in southern quarter of State. Third and fourth-instar larvae 0.5-3 per stem; larvae 5-22 per sweep. Alfalfa 6-10 inches tall. Insecticide treatments underway and will increase with favorable weather. (IL Ins. Rpt.). INDIANA - Larvae averaged 2.6 per stem in 18 southwest and south-central district fields on 4-inch alfalfa. Of 150 stems sampled, 10 percent had clutches of eggs in Harrison County and 6 percent in Jackson County. Infested 12 and 60 percent of 2 west-central fields. (Meyer). VIRGINIA - Infested 34 percent of tips in 17 fields (161 acres) in Botetourt, Culpeper, Dinwiddie, Montgomery, Warren, Washington, and Wythe Counties. Average estimated defoliation 7.1 percent. One field exceeded recommended treatment threshold of infestation. (Allen).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - CALIFORNIA - This species and A. pisum (pea aphid) infested alfalfa plantings at Chino, San Bernardino County. (CA Coop. Rpt.). NEVADA - This species and some A. pisum averaged 100-150 per alfalfa stem in Virgin Valley, Clark County and 50 per stem in Pahrump Valley, Nye County, spotty in the latter area. (Lauderdale).

PEA APHID (Acyrtosiphon pisum) - OKLAHOMA - Scattered heavy infestations, up to 5,000 per square foot, in west-central and southwest counties. Heavy in Grant County field. Very light in Woodward County field. (OK Coop. Sur.). ARKANSAS - Occasional aphid on legumes on farm near Fayetteville, County. (Boyer).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Activity increased this period. Beginning February 9, total weevil catches for 8 traps on succeeding weeks have been: 3, 2, 3, and then 7 on March 10, and 65 on March 15. Catch of 56 and 9 at 2 sites near Weslaco, Hidalgo County. (Deer et al.).

TOBACCO

INSECTS

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - FLORIDA - Adults destroyed 12 percent of 15-acre stand of cigar-wrapper tobacco in field at Quincy, Gadsden County. Fed on buds and stems, severing stalks. Infested 25 percent of cigar-wrapper tobacco seedbeds probably due to better controls; infestations less serious than in 1975 when 95 percent of beds infested. (FL Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

INSECTS

PEPPER WEEVIL (Anthonomus eugenii) - FLORIDA - Increased on bell peppers at Delray Beach, Palm Beach County; larvae in 30-40 percent of dropped fruit. (FL Coop. Sur.).

COLE CROPS

INSECTS

IMPORTED CABBAGEWORM (Pieris rapae) - TEXAS - Appeared on warm days in south-central area. Reported on cabbage, turnips, and collards. Egg laying heavy. Control by Bacillus thuringiensis (a larval disease) excellent. (Cole).

YELLOWMARGINED LEAF BEETLE (Microtheca ochroloma) - FLORIDA - Adults severe on all 200 turnip (Brassica rapa) plants near Lutz, Hillsborough County. Damage severe on tops in 50-foot planting. (FL Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

INSECTS

PEACHTREE BORER (Sanninoidea exitiosa) - OKLAHOMA - Heavy in young Wagoner County peach orchard and in scattered peach trees in other areas in Wagoner and Muskogee Counties. (OK Coop. Sur.).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - ALABAMA - Infestations in cherry and other suitable hosts statewide seem heavier than in most years. Early broods fully grown. (McQueen).

ORNAMENTALS

DISEASES

CEDAR-APPLE RUST (*Gymnosporangium juniperi-virginianae*) - TENNESSEE - Galls began forming on juniper trees in central area. (Bogard).

FOREST AND SHADE TREES

INSECTS

PINE TORTOISE SCALE (*Toumeyella parvicornis*) - ALABAMA - Collected on *Pinus taeda* (loblolly pine) in Macon County, by H. Frank McQueen, March 2, 1976. Determined by M.L. Williams. This is a new county record. (McQueen).

A SOFT SCALE (*Toumeyella pini*) - ALABAMA - Collected on *Pinus taeda* (loblolly pine) at Tuscaloosa, Tuscaloosa County, by M.L. Williams and C.H. Ray, March 7, 1976. Determined by M.L. Williams. This is a new county record. (McQueen).

AN ARMORED SCALE (*Clavaspis ulmi*) - VIRGINIA - Collected from American mountain-ash (*Sorbus americana*) at Monterey, Highland County, by M. Kosztarab March 21, 1976. Determined by R.G. Baer. This is a new host and county record. (Kosztarab).

MAN AND ANIMALS

INSECTS

HORN FLY (*Haematobia irritans*) - ALABAMA - Significant infestations on many cattle throughout Covington County. (Linden). OKLAHOMA - Up to 200 per head on Comanche County bull. (OK Coop. Sur.).

COMMON CATTLE GRUB (*Hypoderma lineatum*) - OKLAHOMA - Adults active in several southwest counties and in Osage County. (OK Coop. Sur.).

AMERICAN DOG TICK (*Dermacentor variabilis*) - OKLAHOMA - First activity of season, 14 taken from dog and one from child, in Payne County. (OK Coop. Sur.).

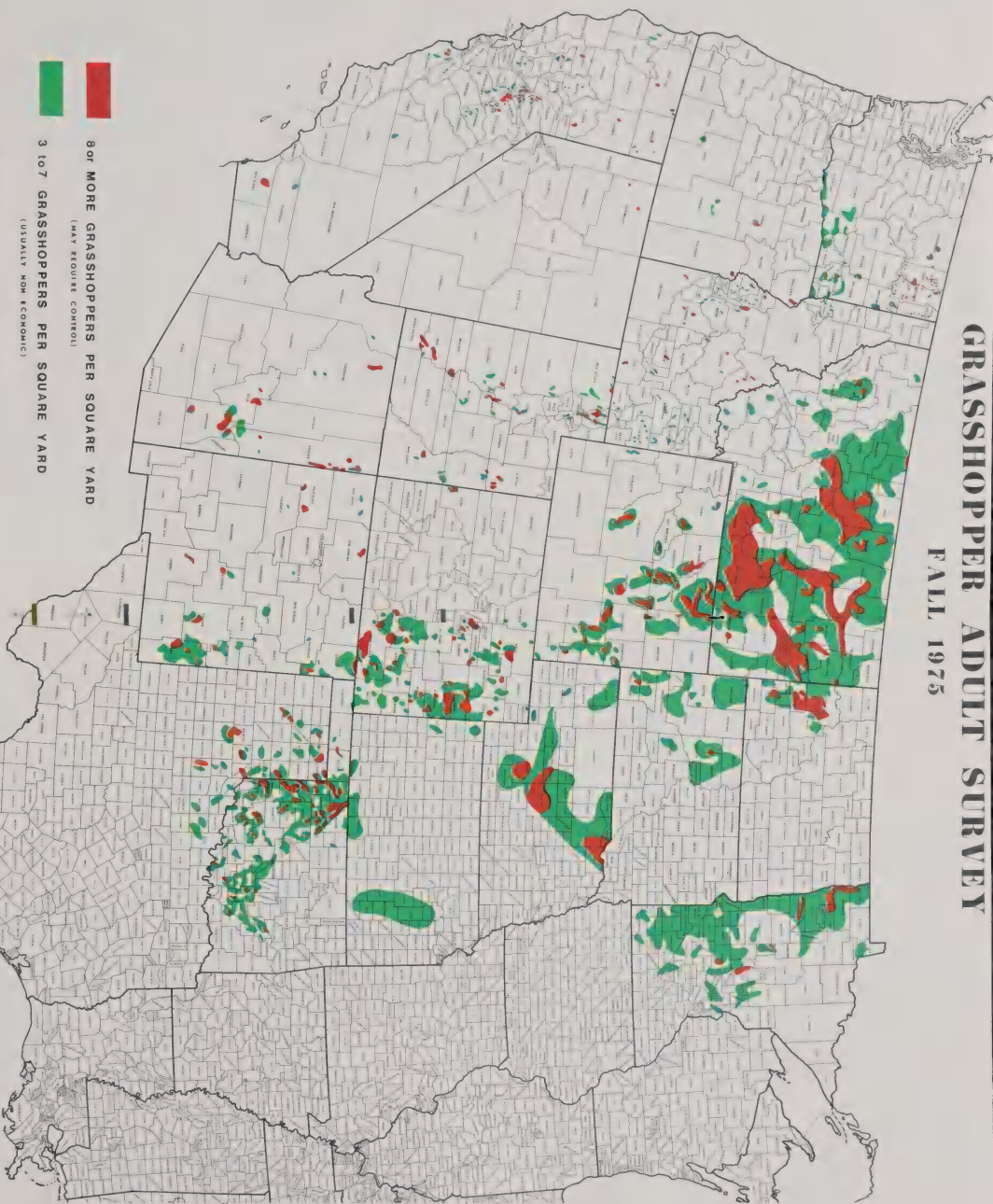
BROWN RECLUSE SPIDER (*Loxosceles reclusa*) - NORTH CAROLINA - Six adults collected March 23 in residence near Apex, location of only Wake County collection site. (Baker).

HOUSEHOLDS AND STRUCTURES

INSECTS

EASTERN SUBTERRANEAN TERMITE (*Reticulitermes flavipes*) - WEST VIRGINIA - Adults numerous in one house each in Kanawha County March 2 and in Monongalia County March 20. First swarmers of season. (Hacker).

GRASSHOPPER ADULT SURVEY FALL 1975



80+ MORE GRASSHOPPERS PER SQUARE YARD
(MAY REQUIRE CONTROL)

3 TO 7 GRASSHOPPERS PER SQUARE YARD
(USUALLY NON ECONOMIC)

NECESSITY FOR CONTROL ON CROPS OR RANGELAND NEXT SEASON
WILL DEPEND UPON TYPE OF HABITAT, SPECIES PRESENCE, WEATHER
AND CONDITION OF VEGETATION.

DETAILED INFORMATION CONCERNING THE GRASSHOPPER PROBLEM
IS AVAILABLE FROM THE TEXAS A&M UNIVERSITY SYSTEM, COUNTY
OFFICIALS, COUNTY AGENTS AND PLANT PROTECTION PERSONNEL.

PREPARED BY PPQ APRILS USDA

12/1/75

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
Plant Protection and Quarantine Programs

TO COOPERATORS:

This map is based upon the results of cooperative grasshopper adult surveys made during the late summer and fall of 1975. The survey reveals where and how many grasshoppers infest an area, and indicates the potential severity of infestations for 1976. Nymphal surveys, made in the spring, determine population densities, and indicate those areas where control may be necessary in 1976.

Control on grasshopper infested croplands will be handled by the farmers with technical assistance from Plant Protection & Quarantine personnel. The infested rangeland areas total 13,928,800 acres in 15 Western and Midwestern States. Areas on the map are diagrammatic. Within these areas, infestations may be solid or spotted.

RANGELAND GRASSHOPPER INFESTATIONS
ACREAGE BY REGIONS, FALL 1975

(Areas shown in red)

REGION AND STATE	LANDOWNERSHIP--ACRES		TOTAL Acres	REGION AND STATE	LANDOWNERSHIP--ACRES		TOTAL ACRES
	Private and State	Public Domain			Private and State	Public Domain	
WESTERN							
Arizona	20,000	238,000	258,000	Washington	42,000	21,000	63,000
California	142,800	11,000	153,000	Utah	39,000	13,000	52,000
Colorado	1,616,000	17,000	1,633,000	Wyoming	1,043,000	472,000	1,515,000
Idaho	32,000	66,000	98,000	SOUTHCENTRAL			
Montana	5,070,000	1,547,000	6,617,000	Nebraska	917,000	25,000	942,000
Nevada	300	6,000	6,300	N. Mexico	410,000	28,000	438,000
No. Dakota	217,000	420,000	637,000	Oklahoma	1,060,000	15,000	1,075,000
Oregon	7,500	5,000	12,500	Texas	429,000	-0-	429,000

The survey was planned and performed by Plant Protection and Quarantine personnel in cooperation with various State Agencies concerned.

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Aided in Schizaphis graminum (greenbug) control in several west-central area fields. Parasitism ranged 0-40 percent in Kay County and up to 50 percent in Muskogee, Haskell, and Le Flore Counties. (OK Coop. Sur.). KANSAS - Heavy counts controlled greenbug in most fields in Cowley and Sumner Counties in many cases. Light in greenbug-infested fields in Harper and Barber Counties. (Bell).

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Aided in controlling Schizaphis graminum (greenbug) on wheat in several west-central counties. Moderate in several southwest and northwest counties. Heavy on alfalfa in southwest counties. (OK Coop. Sur.).

FEDERAL AND STATE PROGRAMS

INSECTS

GRASSHOPPERS - OKLAHOMA - Ageneotettix deorum, Cordillacris occipitalis, and Melanoplus spp. hatch underway in Love, Jefferson, and Kiowa Counties. (OK Coop. Sur.).

SCREWORM (Cochliomyia hominivorax) - Total of 21 cases reported from continental U.S. March 14-20 in Texas. Total of 165 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 201 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 54,484,760; all in Texas. Total of 28,251,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

General Vegetables - GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) adults moderate on cucumbers at Waimanalo, Oahu. Averaged 80 per leaf in random samples. Light on eggplant, beans, tomato, and other hosts at Koko Head, Pearl City, and Ewa, Oahu. (Otsuka et al.). Heavy BROAD MITE (Polyphagotarsonemus latus) infestations and damage in backyard eggplant and tomato plantings at Pearl City; all stages present. ONION THRIPS (Thrips tabaci) infestations and damage very heavy at Pearl City; nymphs and adults 50+ per plant. Light to moderate infestations and damage in green onion and broccoli plantings at Koko Head and Ewa. (Nakahara, Mau). MELON APHID (Aphis gossypii) heavy on eggplant and bell pepper at Aiea, Pearl City, and Ewa, Oahu; nymphs and females noted. (Nakahara et al.). A PLANT BUG (Cyrtopeltis modestus) light to moderate on tomato plants at Pearl City and Ewa. Nymphs and adults present; damage noticeable but light. (Nakahara, Mau).

Turf and Pasture - SPOTTED ALFALFA APHID (Therioaphis maculata) trace to light on burclover and black medic patches at Kunia and Wahiawa, Oahu. Light to moderate, 1-14 per 4-inch of growth, on burclover at Waipahu; burclover damaged by this aphid and drought. (Teramoto).

DETECTION

NEW COUNTY RECORDS

INSECTS

AN ARMORED SCALE (Clavaspis ulmi) - VIRGINIA - Highland (p. 124).

PINE TORTOISE SCALE (Toumeyella parvicornis) - ALABAMA - Macon (p. 124).

A SOFT SCALE (Toumeyella pini) - ALABAMA - Tuscaloosa (p. 124).

CORRECTIONS

CEIR 25(49-52):897 - A PLATYSTOMATID FLY (Rivellia quadrifasciata) ... damaged root nodules ... week ending November 28. should read ... damaged up to 45 percent of root nodules ... first half of August. (Eastman).

CPPR 1(1-4):26 - WHEAT - North Dakota (all) - WSM should read WSSF (Wheat Stem Sawfly). (Scholl).

CPPR 1(1-4):27 - SOYBEANS - Grasshoppers caused a total loss of one hundred and ninety thousand eight hundred dollars in NORTH DAKOTA bringing the Subtotal loss for all soybeans to four million and twenty-seven thousand one hundred and forty-one dollars. (PPQ).

WEATHER OF THE WEEK ENDING MARCH 28

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

TEMPERATURE AND PRECIPITATION: After a weekend of widespread severe weather, fair skies greeted most of the Nation Monday. Limited precipitation at sunrise included widely scattered snow flurries along the eastern end of the Great Lakes. Confined to 4 areas, afternoon showers occurred from the Carolina coast through eastern Georgia to Florida and also southeast Texas. Other shower activity drifted from Arkansas into Missouri, southern Illinois, and southern Indiana. Responsible for a final moisture area, a Pacific frontal system spread showers from the Northwest into Idaho and Montana and south to California. Rather cool daytime temperatures over most of the eastern United States ranged from the tens and 20's in the North to the 50's and 60's in the South. Florida's mercury pushed into the 80's in central and southern areas. Colder evening air guaranteed a chilly night for the northeast, temperatures ranged from the 20's in Pennsylvania and southern sections of New York and New England to -10 degrees in northern Maine. In the northwest quarter of the Nation the target of most nighttime rain extended from the coast into western Montana and southward through northern California. Tuesday opened as a fair springlike day across most of the Nation. Brisk air blasts ahead of a cold front swept mild temperatures northward through the Plains and the Mississippi Valley, with 50's in North Dakota, Minnesota, and Wisconsin, and 70's in Nebraska. Meantime the cold front stretching from the Upper Great Lakes through the central Plains into Arizona pushed cooler air south-eastward but failed to trigger any precipitation. In the eastern United States seasonable readings prevailed, from the 30's and 40's in the North to the 70's and 80's in the South. Weather of the Week continued on page 130.

Mediterranean Fruit Fly
Mexico - United States Cooperative Program 1/

Ing. Manuel Hernandez Albarran 2/

Mediterranean fruit fly originated in north Africa and it is currently causing serious problems in the Mediterranean countries. It attacks more than 200 vegetable and fruit species, which it damages both directly, by larval feeding on the fruit, and indirectly, due to quarantine restrictions on fresh produce export.

Mediterranean fruit fly is found in almost every country of the world except Mexico, Japan, Canada, Great Britain, and some other European countries. The noninfested nations maintain a very tight survey and quarantine system to avoid introduction into their territories.

Mediterranean fruit fly is not present in Mexico. The United States has achieved eradication in Florida and Texas four times at a very high cost. Now it has become established in the metropolitan area of Los Angeles, California.

In a joint FAO-USDA (Food and Agriculture Organization of the United Nations and U.S. Department of Agriculture) report, the economic impact of Mediterranean fruit fly in Central American countries and Mexico was estimated as follows:

1. The impact on citrus production for 1970 in Costa Rica, Panama, and Nicaragua was 2.4 million dollars a year, and the potential damage to citrus in Honduras, El Salvador, and Guatemala during the same year was estimated at 2.5 million dollars for a total of almost 5 million dollars yearly.
2. Potential estimated damage to citrus in noninfested countries would be: for Belize, one million dollars a year; for Mexico, 5 million; and for the United States, 85 million.

If we include all susceptible fruits, potential damage is estimated at more than 200 million dollars for the United States. For Mexico it would be very difficult to evaluate, but because quarantines could restrict tomato exports and direct damage to citrus and other fruits could reduce 15-50 percent of crop production, the total agricultural value would decrease dramatically.

1/ Amended from a paper presented at the annual meeting of the Entomological Society of America, New Orleans, Louisiana, on December 2, 1975.

2/ Dirección General de Sanidad Vegetal, Mexico.

In April 1975, Mediterranean fruit fly was reported in El Salvador. As trapping was increased in adjacent noninfested countries, it was also found in Honduras and Guatemala.

Because this situation is definitely a threat to vegetable and fruit production in the United States and Mexico, additional effort is required from these Governments. Joint work is necessary in Central America to slow down the spread or eliminate future infestations in areas near Mexico.

Under our Memorandum of Understanding with the USDA, over 23 years of cooperative programs of mutual benefit have been undertaken within Mexico. These cooperative efforts have enabled Mexican exports of produce to the United States to move with only limited restriction. This cooperative work includes keeping a fruit fly-free area between our two nations which has contributed to a non-problem situation and has assured that fruit fly infestations in the United States have not originated from Mexico.

In 1960, USDA and SAG (Secretaria de Agricultura y Ganaderia) agreed to a Mediterranean fruit fly cooperative inspection program in southern Mexico. USDA personnel conducted field trapping, and Mexico's Plant Health Division maintained quarantine checkpoints at border crossings, airports, and seaports.

The grave situation of having Mediterranean fruit fly infestation in Guatemala less than 120 miles south of the Mexican border necessitates a modification of the original program to include more intensive inspection, legal enforcement measures, and elimination of new infestations. For this, Mexico has been negotiating through diplomatic channels a working agreement with the Guatemalan Government, which was signed two weeks ago by the Ministers of Agriculture for both Mexico and Guatemala. This agreement allows Mexico to participate in the trapping program in Guatemala to delimit the infested area and to cooperate in control efforts by supplying personnel, equipment, and chemicals. Supervision of these programs will be under the Agriculture Attache at Mexico's Embassy in Guatemala.

Recently, a supplement to our Memorandum of Understanding was submitted to USDA authorities for consideration. It includes cooperative work in Guatemala subject to the following conditions:

1. Budget availability of both cooperative Governments.
2. Authorization of both our Governments to work in Central America.
3. That all activities run parallel to other agreements held between both nations and with other countries.
4. The establishment of a working relationship between USDA, Animal and Plant Health Inspection Service, Plant Protection and Quarantine Programs and OIRSA (Organismo Internacional Regional de Sanidad Agropecuaria).

When accepted by Mexico and the United States, this document will enable both parties to:

1. Develop an inspection and/or eradication program in the infested areas of Central America.
2. Strengthen inspection programs in Mexico.
3. Control and/or eradicate within Mexico. We know that eventually, in spite of our efforts in Central America, Mediterranean fruit fly may get into Mexico and/or the United States. Under the proposed agreement, a joint plan would be developed to eradicate from Mexico any infestations detected. USDA-APHIS-PPQ would be expected to provide some personnel, equipment, and supplies needed to achieve eradication of any spot infestations detected in Mexico.

The total cost for such a cooperative program has not been calculated in its entirety, but it would be inexpensive when one considers the benefits to be derived. The supplement to the Memorandum of Understanding stated that costs would be divided equally.

We know that through cooperative efforts, Mexico and the United States can protect vegetable and fruit production, which is of prime importance to both countries' economy. The proposed agreement will strengthen the principles of our cooperative working relationships.

U.S. Dept. Agr.
Coop. Plant Pest Rpt.
1(13):127-129, 1976

Weather of the Week continued from page 126.

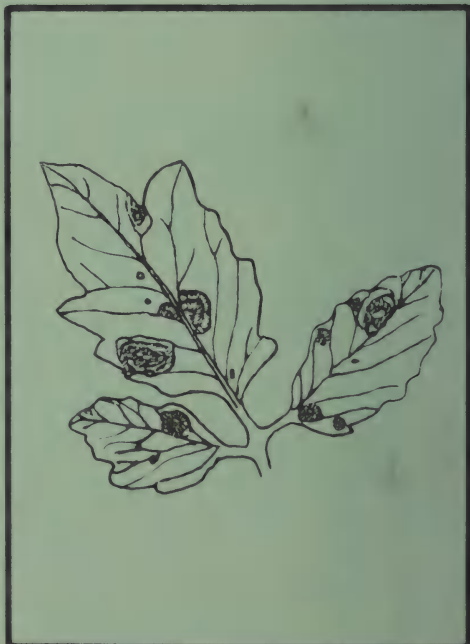
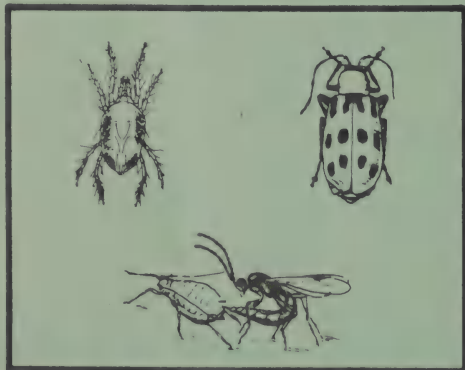
Though a nearly stationary high pressure system acted as an umbrella for the areas east of the Mississippi, precipitation elsewhere ranged from a few thundershowers in southern Texas, to scattered rainshowers over the Florida peninsula, snow showers in parts of Montana and Idaho, and some rain in northwestern Washington. Moist gulf air flowing northward Wednesday touched off thundershowers in Texas that penetrated the middle and lower Mississippi Valley. Considerable precipitation in the Northwest occurred as showers with snow in the mountains from the Pacific coast into the northern half of the Rocky Mountain Region. Strong winds accompanied another series of Pacific cold fronts that churned through the northwestern United States into the central Intermountain region. In the Midwest, colder temperatures trailed the cold front that hustled southeastward over the middle Mississippi Valley. In the extreme northern Plains the mercury halted in 30's. On Thursday, the strong cold front joined forces with a high pressure system to prolong forceful winds in the western United States. Air blasts out of the Southwest sent afternoon temperatures soaring into the 80's over the west-central and southwest Plains. Forecasters put travelers on the lookout for local blowing and drifting snow in the northern mountains of Utah where gusts hit 80 miles per hour. Centered over northern Kansas a low pressure system generated strong winds over much of the central Plains but little moisture fell. As more moisture laden air streamed northward from the gulf, heavy rains soaked southern Louisiana and a tornado touched down near Houston, Texas. Unseasonably mild temperatures covered a large portion of the Nation from the Great Plains to the Atlantic coast, from the low 70's in southern Oklahoma to the upper 50's in southwest Wisconsin.

Racing swiftly across the Nation, the vigorous cold front ignited severe thunderstorms and tornadoes in the middle and lower Mississippi Valley. A total of 24 tornadoes resulted in 5 reported deaths. Heavy rains pushed rivers in Alabama above flood stage. Reports of funnel clouds and hail were numerous, though Illinois seemed hardest hit by wind damage. Ahead of the cold front, warm air rushing northward from the Gulf of Mexico to the Great Lakes produced record high readings: Alpena, Michigan 67 degrees and Chicago, Illinois 77 degrees. Amid colder air behind the front, however, temperatures dropped sharply. Parts of the southwestern Plains measured readings in the 30's and 40's compared to the 80's and low 90's Thursday. Most of Saturday's severe weather appeared in Alabama and Mississippi, as lines of thunderstorms passed through the area in the morning. A larger area of daytime shower activity extended from the lower Great Lakes through the Carolina coast and eastward to New England. West of the Rockies, snow showers whitened the landscape from western Montana through portions of Idaho and Nevada. Sunday's pattern of pressure systems produced gusty northwest winds along the Pacific coast from Mexico to Canada. Only a minimum of severe weather occurred. As the complex frontal system began to wind down over the central United States, showers and thunderstorms ranged from the Mississippi Valley to the central and southern Plains.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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p. 2 **Cooperative**

PLANT PEST REPORT

PRODUCTION SECTION
CURRENT SERIAL RECORDS

APR 16 1976

U.S. DEPARTMENT OF AGRICULTURE
OFFICE OF THE ASSISTANT SECRETARY
FOR PLANT INDUSTRY



**Animal
and Plant
Health
Inspection
Service**

**U.S.
DEPARTMENT
OF AGRICULTURE**



This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff

Plant Protection and Quarantine Programs

Animal and Plant Health Inspection Service

U.S. Department of Agriculture

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

SPOTTED ALFALFA APHID, BLUE ALFALFA APHID, and/or PEA APHID heavy in Nevada and Utah. (pp. 133, 135).

ALFALFA WEEVIL increased in Florida, Illinois, and Indiana. Possibly more damaging in Ohio this year. (p. 134).

BOLL WEEVIL counts in Alabama very light to date. (p. 135).

Detection

New State Records include a WEEVIL (p. 139) and PEAR PSYLLA (p. 135) in Colorado and EUROPEAN EARWIG in Hawaii (p. 138).

CITRUS BLACKFLY found in Palm Beach County, Florida. (p. 137)
For other new county records, see page 139.

Two adults of a SCOLYTID BEETLE taken in blacklight trap in Puerto Rico. No previous records in Puerto Rico and United States. (p. 139).

Some First Appearances of Season

POWDERY MILDEW OF WHEAT in Kansas.

AZALEA CATERPILLAR in Oklahoma.

CEDAR-APPLE RUST in Tennessee.

Special Reports

Oriental Fruit Fly Eradication - San Diego, California. (pp. 141-142).

Reports in this issue are for the week ending April 2 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - Fewer than 0.25 per linear foot on Cimarron County wheat. (OK Coop. Sur.). COLORADO - Up to 5 per linear foot of row on 20 percent of all wheat checked in northeast area. Averages of 2 per alfalfa plant near Wray, Yuma County. (Pilcher). NEBRASKA - One specimen found in 15 wheat-fields and 5 alfalfa fields in Kearney, Franklin, Harlan, and Phelps Counties. Larval averages ranged 2-3 per square foot on Clay County alfalfa; damage insignificant. Larvae noneconomic in 25 wheatfields in Scotts Bluff and Morrill Counties. (Peters, Hagen).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Still scattered and heavy on Major County wheat. Ranged 30-250 per linear foot in southern Texas County. Moderate in Kay and Hughes Counties. Light in Washita County. (OK Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Counts per 10 sweeps of alfalfa by county: Canadian averaged 500; Blaine, Cleveland, Pottawatomie, Seminole, and Lincoln 1-20. (OK Coop. Sur.). NEVADA - Mainly this species, some Acyrtosiphon kondoi (blue alfalfa aphid) and a few A. pisum (pea aphid) averaged 50 per stem on 4 to 6-inch hay alfalfa and one to 2-inch seedling hay alfalfa at Amargosa, Nye County; damage heavy. (Reeve).

CORN, SORGHUM, SUGARCANE

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Pupation of overwintering borers averaged 10 percent in Sussex County March 29. (Burbutis, Kelsey).

SEEDCORN MAGGOT (Hylemya platura) - NORTH CAROLINA - Damaged early planted corn in Coastal Plain and as far west as Cleveland County. Infested half of 100 germinating seeds in 40-acre Cleveland County field. (Hunt).

SMALL GRAINS

DISEASES

POWDERY MILDEW OF WHEAT (Erysiphe graminis var. tritici) - KANSAS - Appeared in Anderson and Coffey Counties. (Sim).

SOIL-BORNE WHEAT MOSAIC VIRUS - KANSAS - Still evident on wheat in central and eastern areas. Percent of fields with severe infection by county: Pottawatomie 10 and Brown 5. Percent of fields with moderate infection by county: Pottawatomie, Jackson, Brown, Douglas, Franklin, Republic, and Nemaha 10; Marshall, Washington, Allen, Geary, and Ottawa 5; Clay 3; Cloud 2; other counties trace. (Sim).

INSECTS

PALE WESTERN CUTWORM (Agrotis orthogonia) - OKLAHOMA - Averaged 0.5 larva per linear foot on Cimarron County wheat. (OK Coop. Sur.).

BROWN WHEAT MITE (Petrobia latens) - OKLAHOMA - Ranged 10-150 per linear foot of wheat in Texas and Cimarron Counties. Moderate in Washita County. (OK Coop. Sur.). NEVADA - Ranged 20-30 per winter wheat plant at Lovelock, Pershing County. (Munk).

FORAGE LEGUMES

DISEASES

BACTERIAL LEAF SPOT OF ALFALFA (Xanthomonas alfalfae) - KANSAS - Percent of infected alfalfa plants in fields sampled by county: Jefferson 5, Doniphan 5, Atchison 40, and Brown 5. (Sim).

INSECTS

ALFALFA WEEVIL (Hypera postica) - FLORIDA - Larvae and adults 450 in 100 sweeps of blooming alfalfa at Gainesville, Alachua County. Adults increased 6 times; larvae dropped to half that sampled 12 days ago. (Mead). ARKANSAS - Larvae 400-500 per 100 sweeps of Washington County alfalfa. (Boyer). OKLAHOMA - Larval averages per 10 sweeps by county: Blaine 13, Logan 30, Kingfisher 5-10, Canadian 68, McClain 205, Cleveland 35, Pottawatomie 8, Seminole 37, and Lincoln 80. Alfalfa 4-6 inches tall in Blaine, Logan, and Kingfisher Counties and 6-9 inches tall in other counties. Infested tips ranged 30-80 percent in Logan County; averaged 40 percent in Major County. Larvae 10-15 per square foot in Payne County field. Eggs averaged 2 per square foot in Payne County samples collected March 29. Pupae light in some areas past 2 weeks and found as far northwest as Major County by March 27. (OK Coop. Sur.).

ILLINOIS - Alfalfa weevil continued increase in some southern areas week of March 29. Up to 4-5 third and fourth-instar larvae per plant on 10-100 percent of tips. Averaged 80 eggs and 50 larvae per square foot in Washington County. Alfalfa 8-12 inches tall. Cold weather probably slowed egg laying, but cold, rainy, and very windy weather delayed controls. Many first and second instars on 25-50 percent of alfalfa tips as far north as Adams County. (Wedberg). INDIANA - Larvae increased on untreated alfalfa in southern districts, especially in Harrison County where mean per stem increased from 3.1 to 5.6. Eggs averaged about 1.5 per stem in mostly untreated fields and one per stem in Jackson County where most fields treated. Larvae in treated fields ranged 0.1-1.5 per stem in Jackson County and up to 2 per stem in Knox County. (Meyer).

OHIO - Overwintering alfalfa weevil adults heavier than in past 2 years in alfalfa surveyed in Franklin and Wayne Counties. Eggs at 61.5 per square foot in 4.5-inch stems in Franklin County may indicate larvae more damaging in 1976. (Horn, Flessel). VIRGINIA - Infested 50 percent of tips in 13 fields (130 acres) of forage in Botetourt, Culpeper, Montgomery, Roanoke, Rockbridge, Warren, Washington, and Wythe Counties. Average estimated defoliation 7.5 percent. One field exceeded treatment threshold. Larvae averaged one-sixteenth of an inch. (Allen).

ALFALFA CATERPILLAR (Colias eurytheme) - OKLAHOMA - First larva of season on Canadian County alfalfa March 31; occasional larva in Cleveland and Seminole Counties April 1. (OK Coop. Sur.).

PEA APHID (Acyrtosiphum pisum) - FLORIDA - Increased, 1,100 nymphs and adults in 100 sweeps of blooming alfalfa at Gainesville, Alachua County. (FL Coop. Sur.). OKLAHOMA - Counts per 10 sweeps of alfalfa by county: Blaine 35, Logan 130, Kingfisher 5-10, Canadian 500, McClain 10, Cleveland 13, Pottawatomie 38, Seminole 10, and Lincoln 10. (OK Coop. Sur.). WISCONSIN - Hatch underway in Dane County week ending March 26. Eggs seem more prevalent than usual. (WI Ins. Sur.).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEVADA - A. pisum (pea aphid) and mostly A. kondoi averaged 300+ per sweep on hay alfalfa, honeydew present, in Virgin Valley, Clark County. Controls applied to some fields; others planned. Up to 750+ per sweep, honeydew heavy, on hay alfalfa in Moapa Valley, Clark County. Hay being cut; no controls applied to date. (Zoller). Mostly A. kondoi heavy on hay alfalfa in Sandy Valley, Clark County; controls applied. (Reeve). UTAH - A. kondoi and A. pisum (pea aphid) heavy on alfalfa at Washington, Washington County, week of March 25. (Roberts, Knowlton).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Adults trapped in 20 sexlure traps in cotton field in Barbour County total 189 to date compared with 1,276 for same period in 1975. Equal or greater percentage of reduction expected in northern area. (Davis).

SUGAR BEETS

INSECTS

SUGARBEET ROOT MAGGOT (Tetanops myopaeformis) - OREGON - Thirteen specimens collected on a power pole in sugar beet field 5 miles northwest of Milton-Freewater, Umatilla County, June 19, 1975. Collected and determined by K.J. Goeden. Confirmed by G.C. Steyskal. This is a new county record. Further survey negative. (Goeden).

DECIDUOUS FRUITS AND NUTS

INSECTS

PEAR PSYLLA (Psylla pyricola) - COLORADO - Taken on pear at Fruitvale, Mesa County, August 18, 1975. Collected and determined by A.D. Bulla. This is a new State record. (Bulla).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - SOUTH CAROLINA - Larvae and webs statewide. Webs small. Highway counts heavier than usual statewide. (McCaskill). TENNESSEE - Tents up to 4 inches in many eastern and central locations. (Hammett, Gordon). OKLAHOMA - Moderate to heavy on wild plum statewide. (OK Coop. Sur.).

CITRUS

INSECTS

AN ARMORED SCALE (Hemiberlesia lataniae) - CALIFORNIA - Heavy on navel orange trees at Leucadia, San Diego County. (CA Coop. Rpt.).

SMALL FRUITS

DISEASES

MUMMY BERRY (Monilinia vaccinii-corymbosi) - NEW JERSEY - Mummies with stipes increased from 73 to 685 per 10 blueberry bushes March 26-29. Three percent of stipes developed to cup stage; spores began to shoot from cups. (Ins.-Dis. Newsltr.).

ORNAMENTALS

DISEASES

CEDAR-APPLE RUST (Gymnosporangium juniperi-virginianae) - TENNESSEE - Spore horns protruded from galls on junipers at Lafayette, Tippecanoe County. (Pecknold et al.).

INSECTS

NATIVE HOLLY LEAFMINER (Phytomyza ilicicola) - VIRGINIA - Damage to American holly heavy in Independent City of Alexandria. (Allen).

FOREST AND SHADE TREES

INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - MISSISSIPPI - Collected feeding on 12 shortleaf pine trees by S.G. McDaniel near Blackhawk, Carroll County, March 27, 1976. Determined by T.E. Nebeker and G.E. Fitzpatrick; confirmed by M.W. MacGown. This is a new county record. (Anderson).

SOUTHWESTERN TENT CATERPILLAR (Malacosoma incurvum) - NEVADA - Heavily damaged cottonwoods in Virgin Valley, Clark County. (Zoller).

SPRING CANKERWORM (Paleacrita vernata) - NORTH DAKOTA - Adult male emerged at Fargo, Cass County, March 31. (Anderson).

MAN AND ANIMALS

INSECTS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Adults heavy in Major, Payne, Logan, Oklahoma, and Comanche Counties. (OK Coop. Sur.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Counts per head of cattle by county: Pawnee 200-250, Payne and Comanche 200, Major averaged 20. (OK Coop. Sur.). FLORIDA - Adults averaged 480 per beef animal, mostly Black Angus, at ranch near Gainesville, Alachua County. (FL Coop. Sur.).

BROWN SALTmarsh MOSQUITO (Aedes cantator) - NEW HAMPSHIRE - Larvae hatched in isolated pools in salt marshes at Hampton, Rockingham County. Early second instar collected March 25. (Katkin).

SHORTNOSED CATTLE LOUSE (Haematopinus eurytarnus) - OKLAHOMA - Moderate on Hughes County cattle. (OK Coop. Sur.).

ITCH MITE (Sarcoptes scabiei) - NORTH DAKOTA - Infested humans in household at Bismarck, Burleigh County. Initially found on puppy. Other cases confirmed statewide. (Winks, Ehart).

LONE STAR TICK (Amblyomma americanum) - MISSISSIPPI - Heavy on wild mice and rats in Marshall County. (Rhodes).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN APHIDIID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Adults 0-3 per linear foot in Texas County. Continued increase on Schizaphis graminum (greenbug) infested wheat in most areas. (OK Coop. Sur.).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - MICHIGAN - Entering and leaving overwintering sites in Berrien County during last 14 days in March. Collected from emergence trap in this county March 25. (PPQ).

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - All stages collected on leaves of Citrus paradisi (grapefruit) and C. aurantifolia (lime) at 2 adjacent sites in Boca Raton, Palm Beach County, by F.E. Long and T.D. Goodman, March 29, 1976. Determined by R.P. Higgins; confirmed by R.E. Woodruff. This is a new county record. No nurseries involved yet; nearly all finds on dooryard citrus in 2-square-mile section of Boca Raton bordering the coast. Total of 8 sites confirmed in Palm Beach County; farthest site 2 miles north of Broward County. (PPQ).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Several specimens collected north of Valley View, Cooke County, by O.L. Broman, March 19, 1976. Determined by B.D. Greer and R.L. Hodgdon; confirmed by D.R. Smith. This is a new county record. (PPQ).

SCREWORM (Cochliomyia hominivorax) - Total of 34 cases reported from continental U.S. March 21-27 in Texas. Total of 100 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 125 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 43,334,000; all in Texas. Total of 27,207,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

New State Record - Two females and one nymph of EUROPEAN EARWIG (Forficula auricularia) collected at Hosmer Grove (elevation 6,400 feet), Haleakala National Park, Maui, by E. Smith, July 13, 1975. Determined by J.W. Beardsley. (Beardsley, Mau).

General Vegetables - TOMATO PINWORM (Keiferia lycopersicella) near nil in tomato and eggplant at Waianae and Ewa, Oahu. Heavy parasitism by Apanteles scutellaris and A. dignis (braconid wasps) in late February apparently responsible for low pinworm numbers. (Mau).

Beneficial Insects - Adults of a BRACONID WASP (Opius oophilus) parasite of Dacus dorsalis (oriental fruit fly) light to moderate on guava fruit at Waimanalo, Oahu. Opius adults twice number of fruit flies. (Murai). A BRACONID WASP (Apanteles erionotae) and an ENCYRTID WASP (Ooencyrtus erionotae) continue to keep Erionota thrax (banana skipper) at low levels. Skipper larvae are extremely difficult to find at all locations on Oahu. An APHIDIID WASP (Trioxys complanatus) firmly established on Therioaphis maculata (spotted alfalfa aphid) at Hickam Air Force Base and Waipahu, Oahu. Parasitism light. (Mau).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 3/26-4/1, 2BL, ARMYWORM (Pseudaletia unipuncta) 58, BLACK CUTWORM (Agrotis ipsilon) 30, CORN EARWORM (Heliothis zea) 1, GRANULATE CUTWORM (Feltia subterranea) 68, TOBACCO BUDWORM (Heliothis virescens) 3, YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) 2. OHIO - Wooster, 3/27-4/2, BL, Armyworm 4, black cutworm 5.

WEATHER OF THE WEEK ENDING APRIL 4

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

TEMPERATURE AND PRECIPITATION: Though Monday's low pressure center seemed to lose momentum as it moved slowly across the Plains, a complex system still managed to create a large area of thunderstorms and showers. The heaviest activity thundered from Kansas into eastern Texas. Storms raging across a seven-State area spawned more than 30 tornadoes, two-thirds of which struck Arkansas, and in Cabot, in the central part of the State, caused three fatalities and dozens of injuries. Eight tornadoes singled out Mississippi where Canton reported three deaths and 150 injuries. Other "touchdowns" were in Illinois, Missouri, Kansas, Oklahoma, and Tennessee. At the end of the day, areas from the central Plains into the middle and lower Mississippi Valley breathed more easily as the deceptive frontal system accelerated eastward. Nighttime thunderstorms persisted from the middle and lower Mississippi Valley into northern Georgia and the western Carolinas. Rain extended from the Great Lakes region through the eastern Ohio Valley into the Middle Atlantic States. Following yesterday's outbreak of tornadoes in the lower Mississippi Valley and adjacent areas, strong thunderstorms came to life on Tuesday in southern Texas. Tornadoes, accompanied by 1.5-inch hail, caused eight injuries at the center point. Weather of the week continued on page 140.

DETECTION

INSECTS

A SCOLYTID BEETLE (Pityogenes chalcographus (Linnaeus)) - PUERTO RICO - Two live adults collected from blacklight trap in residential area near Bayamón by H. Murphy, March 17, 1976. Determined by D.M. Anderson. No previous records in Puerto Rico or the United States. It is not known if this species is established. Spruce, fir, and pine are primary hosts. More common in trees under stress. Breeds in stems, crowns, and cut branches. Intercepted in the U.S. over 143 times from 14 European countries. (PPQ).

NEW STATE RECORDS

INSECTS

A WEEVIL (Auleutes tuberculatus) - COLORADO - One adult taken in 23 sweeps of pasture near Nunn, Weld County, by R. Kumar, July 11, 1972. Determined by R.E. Warner. (PPQ).

EUROPEAN EARWIG (Forficula auricularia) - HAWAII - Maui Island. (p. 138).

PEAR PSYLLA (Psylla pyricola) - COLORADO - Mesa County. (p. 135).

NEW COUNTY RECORDS

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - Palm Beach (p. 137).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Cooke (p. 137).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - MISSISSIPPI - Carroll (p. 136).

SUGARBEET ROOT MAGGOT (Tetanops myopaeformis) - OREGON - Umatilla (p. 135).

Weather of the week continued from page 138.

Parts of Louisiana, Mississippi, and Alabama also took a beating from moisture-laden storms in the central and southern Mississippi Valley regions. "Golf ball-size hail" and winds above 85 m.p.h. contributed to the severe weather which focused on central Louisiana and southwest Mississippi.

During March, forecasters tallied about 190 tornadoes across the United States; that's nearly 150 above average and tops the previous March 1961 record number of tornadoes by 63. Behind the thunderstorms area, cold windy weather swept across the Plains during the day. Rain and snow showers appeared over parts of the upper Mississippi Valley, east-central Plains, eastern New Mexico, and northwestern Texas. Daytime temperatures in the 80's dubbed southern Florida as the Nation's hotspot. Readings in the low 70's warmed lower Michigan and the upper 70's edged the Lower Great Lakes region. In New York, Buffalo measured a new record high of 70 degrees. Tuesday's tornadoes put the final count for March at 211 on Wednesday, the last day of the month. Early morning thundershowers associated with a frontal system ranged from the Louisiana Delta to the western Carolinas. North of the storm area, general rain and drizzle drifted into the Appalachians and eastern Great Lakes. During the day, the eastern front moved lazily towards the coast. Multiple lines of thunderstorms accompanied the system across Georgia and South Carolina. Widespread rains encompassed the Northern and Middle Atlantic Coast States. By midweek, colder air settled across the central United States threatening vegetation that emerged ahead of schedule with an unusually warm spring. Thursday, rainfall in northern New England, especially sections of Vermont and New Hampshire, pushed rivers and streams to the flood level. The area of precipitation extended into the neighboring Appalachians and Great Lakes region. Most of the Mississippi Valley, the Plains, and the southern half of the Rockies fared under sunny skies. Rapid snowmelt from warming temperatures throughout these areas encouraged portions of the Red River of the North to rise. Though Friday's weather map traced little widespread precipitation, snow continued over Wyoming, Idaho, and Montana where Lewistown collected 4 inches. Northeast rain showers were scattered from the lower Great Lakes region into Virginia, West Virginia, and New England. Daytime temperatures remained cold in the northern Rockies and northern High Plains; readings halted in the 30's in the western Dakotas, southeast Montana, and northern Wyoming. At the other end of the scale many temperatures in the central Plains soared into the mid to upper 80's in parts of Kansas and Missouri. In central Kansas, Hutchinson's 92 degrees claimed the highest national reading. Temperatures took a nosedive on Saturday morning, however, following the passage of a cold front across the central Plains. The arrival of cold air in central Kansas slashed Hutchinson's winning 92 degrees on Friday to less than half. The mercury dipped into the teens in southeast Wyoming and into the 20's from the Nebraska Panhandle through the western Dakotas. Friday's warm readings in the Plains shifted into the Ohio Valley. Soon after, the central Plains returned to normal, in the 50's and 60's; reports of low 80's came from Kentucky. Evening showers and thundershowers that developed from eastern Texas into Arkansas and Oklahoma headed eastward on Sunday morning. Weekend rains measured up to 4 inches in southeast Texas, just enough to tease the parched soils in the area.

Oriental Fruit Fly Eradication - San Diego, California 1/

F.M. Philips 2/

An oriental fruit fly (Dacus dorsalis Hendel) outbreak in San Diego, California, has been eradicated through a cooperative Federal, State, and county program. This was the first time this pest has established a larval infestation in the continental United States.

Oriental fruit fly is one of the world's most destructive pests of fruits and vegetables. It attacks over 150 species of fruits and vegetables, some of which are known to occur in the San Diego area.

On September 6, 1974, one male oriental fruit fly was taken from a McPhail trap located in the Clairemont district of San Diego. According to plans agreed upon previously, Federal, State, and county departments of agriculture placed Steiner traps at the rate of five traps per square mile in the 81 square miles surrounding the epicenter. By September 13, a total of 57 flies had been trapped. On September 16, larvae of the oriental fruit fly were found infesting Catalina cherry on five properties and lemon on one property.

Eradication treatments began on September 18, 1974, and continued through April 16, 1975.

The program consisted of four major activities: (1) Trapping surveys, (2) male annihilation treatments, (3) female annihilation treatments, and (4) quarantine.

Trapping consisted of weekly maintenance of five Steiner traps and one McPhail trap installed per square mile over a 90-square-mile area at the beginning, and five Steiner and five McPhail traps installed per square mile over approximately 350 square miles by the time treatment activities were terminated. A total of 534 oriental fruit flies was taken from 114 individual properties; larvae were found in fruit from 33 properties. It was estimated that 40,000 larvae were destroyed from the fruit of one Catalina cherry tree.

Male annihilation treatments required the weekly application of 3-5 milliliters of a bait composed of 88 percent methyl eugenol, 7 percent Thixcin-E @ 3/, and 5 percent naled to 600 sites per square mile in the nine square miles around the epicenter. By the time treatment activities were terminated, 137 square miles had been treated with 534,739 bait stations.

1/ Amended from a paper presented at the annual meeting of the Entomological Society of America, New Orleans, Louisiana, on December 3, 1975.

2/ USDA, APHIS, PPQ, Hyattsville, MD 20782

3/ Trade names are used in this paper solely for the purpose of providing specific information. Mention of a trade name does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture, or an indorsement by the Department over other products not mentioned.

Female annihilation treatments required weekly applications of 3-5 milliliters of a bait composed of 84 percent Staley's corn protein bait and 16 percent malathion at 6,000 bait stations distributed over each square mile. At the beginning, nine square miles were under treatment, and at the conclusion of the program, 779,050 bait stations had been set up over a 24-square-mile area.

The area initially under quarantine was approximately 90 square miles and by the end of the program had been expanded to include a total of 315 square miles.

From November 7 through November 15, three single male oriental fruit flies were trapped at three separate locations outside the original 90-square-mile quarantine area. Later on November 26, a single gravid female was trapped in Spring Valley, approximately 10 miles east of the eastern boundary of the originally quarantined area.

The nine square miles around this latest find received the first female annihilation treatment within five days. By December 10, male flies were found in El Cajon, La Mesa, and Allied Gardens, suburbs of San Diego. These new finds required an increase in the male treatment area by 50 square miles and in the trapping area by 150 square miles. After these finds only two additional flies were found--one on December 20, 1974, and one on January 23, 1975.

As the program progressed, it became evident that it was necessary to reach an inter-agency agreement on when male and female treatments could be terminated, when eradication could be declared accomplished, and when trapping could cease. It was decided that female treatment should continue until 45 days after the last female was caught and male treatment should continue for 75 days after the last male was found. Consequently, female treatments were terminated on January 31, 1975, except for the four square miles around the original epicenter. Male treatments were terminated on April 16. Trapping at the intensified rate has continued to the present. Eradication was considered accomplished when sufficient time had elapsed after the last fly was caught for three generations of the fly to have been produced. Under the conditions present in San Diego, a total of 120 days was necessary for this purpose. Therefore, on May 21, 1975, the first fully colonized oriental fruit fly infestation to occur in the continental United States was declared eradicated.

At the height of the program, 134 people were employed, 96 vehicles were used, and 37 two-way radios were operated. Total cost of the program, shared jointly by Plant Protection and Quarantine Programs and the California Department of Food and Agriculture, was approximately \$750,000.00.

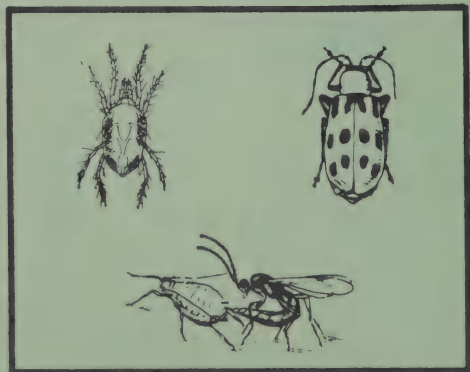
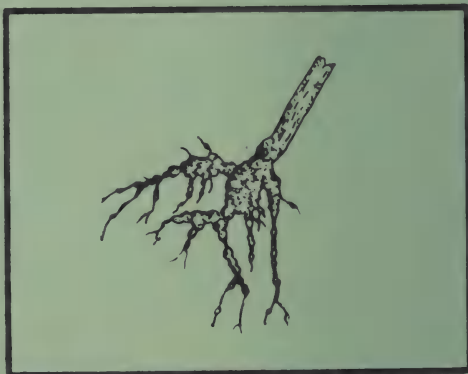
A program of this type is next to impossible to conclude successfully without an intensive public information program resulting in the cooperation of the press and the public. When three different governmental agencies are jointly involved in such a program, considerable effort by all concerned is necessary to make it successful. It should be noted that the cooperation among all agencies was outstanding.

U.S. Dept. Agr.
Coop. Plant Pest Rpt.
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UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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Cooperative PLANT PEST REPORT



Animal
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Health
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Service

U.S.
DEPARTMENT
OF AGRICULTURE

This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
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Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

SPOTTED ALFALFA APHID up to one per trifoliate leaf on alfalfa in parts of Kansas. (p. 145).

BROWN WHEAT MITE very heavy on wheat in Oklahoma. (p. 146).

ALFALFA WEEVIL economic in parts of Texas, Oklahoma, Tennessee, Illinois, Indiana, and Maryland. (pp. 147-148).

PALES WEEVIL and NORTHERN PINE WEEVIL heavy in northeast Ohio. (p. 151).

Detection

For new county records, see page 154.

RANGE CATERPILLAR extensions in Texas and New Mexico. (p. 146).

GREEN PEACH APHID on new host for Florida. (p. 150).

Some First Appearances of the Season

FALL ARMYWORM in Florida. BLACK CUTWORM and VARIEGATED CUTWORM in Kansas. CEPHALOSPORIUM STRIPE OF WHEAT and WHEAT STREAK MOSAIC VIRUS in Kansas. MEADOW SPITTLEBUG in Maryland. BOLLWORM in Texas. MEXICAN BEAN BEETLE in Tennessee.

Special Reports

Fruit Fly Research Needs and Plans in the Western Hemisphere. (pp. 155-157).

Reports in this issue are for the week ending April 9 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - Pupation underway in Payne County. Larvae 40 percent parasitized. (OK Coop. Sur.). KANSAS - Heavy counts prevented spring growth in spots of some alfalfa in Rooks County. Larvae up to 1.4 per row foot of wheat in Sherman County and nearly one per row foot in Rawlins, Wallace, and Greeley Counties. Larvae per square foot of alfalfa by county: Decatur 0-0.5, Norton 0-0.8, Rawlins 0.3-0.4, Sherman 0.2-0.9. Moth flights begun in Finney County. (Bell). NEBRASKA - Active on wheat and alfalfa in Red Willow, Furnas, Dodge, and Dawson Counties. First-year alfalfa field in Dawson County treated. (Campbell).

ARMYWORM (Pseudaletia unipuncta) - SOUTH DAKOTA - Light on wheat in Meade County. Very heavy on wheat in Lyman County, particularly at Presho, Kennebec, and Vivian. (Walgenbach).

GREENBUG (Schizaphis graminum) - TEXAS - Less than one per grain sorghum plant in Nueces, San Patricio, and Bee Counties. (Cole et al.). KANSAS - Heavy on wheat in Stevens County where significant parasitism by Lysiphlebus testaceipes (an aphidiid wasp) and a few lady beetles showing up in few fields. (Bell).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Moderate on west-central area alfalfa. (OK Coop. Sur.). KANSAS - Significant infestations showing up in some alfalfa in east-central district; averaged up to 80 per sweep (one per trifoliate leaf) in drought-stressed alfalfa in Coffey County. Counts per sweep by county: Franklin 5, Linn 20, Osage 60, Morris 6, and Greenwood 5. (Bell).

CORN, SORGHUM, SUGARCANE

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Adults averaged 5-6 per night for last 3 weeks in sex pheromone traps at Hastings, St. Johns County. Third-instar larvae light on unsprayed commercial field corn 12-14 inches tall (fourth-leaf stage). First report this year of larvae in northern area. (FL Coop. Sur.).

BLACK CUTWORM (Agrotis ipsilon) - KANSAS - First adults of season in blacklight trap at Rossville, Shawnee County, April 6. (Bell).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Overwintered survival rate of 100 percent in Dane County field and 92 percent in Columbia County field. (WI Ins. Sur.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - ALABAMA - Larvae damaged 6-inch corn in large field at Uriah, Monroe County. (Gamble). TEXAS - Light on sorghum in Robertson and Burleson Counties. (Cole).

SEEDCORN MAGGOT (Hylemya platura) - MARYLAND - Early adult emergence statewide. Adults 1-20 per 10 square feet of area in plowed fields. Heavy egg laying expected in fields planted with corn week of April 2. (U. Md., Ent. Dept.).

SMALL GRAINS

DISEASES

ROOT AND CROWN ROT OF WHEAT (Helminthosporium sativum) - NEBRASKA - Prevalence of this disease varies within fields and across major growing areas. Relatively dry fall and winter favored disease development in some areas. (Watkins et al.).

CEPHALOSPORIUM STRIPE OF WHEAT (Cephalosporium gramineum) - KANSAS - First of season; trace in wheat in McPherson and Geary Counties. (Sim).

SPECKLED LEAF BLOTCH (Septoria tritici) - KANSAS - Percent of wheat infected in fields surveyed by county: Neosho 70, Edwards 5, Reno 10. (Sim).

WHEAT SPINDLE STREAK VIRUS - INDIANA - Wheat disease survey in southern area April 5-6. This disease in many wheatfields examined in Harrison, Floyd, Crawford, Perry, Spencer, Warrick, Dubois, Pike, Gibson, Knox, and Sullivan Counties. Specimens diagnosed from Hendricks and Tippecanoe Counties. This virus suspected in several other counties. Survey in northern areas to begin in few days. (Scott et al.).

SOIL-BORNE WHEAT MOSAIC VIRUS - KANSAS - Percent of surveyed fields infected by county: Rice 25; Saline and McPherson 20; Morris and Ellsworth 15; Geary, Harvey, Sedgwick, and Stafford 10; Washington, Marion, Reno, Elk, Sumner, Kingman, and Edwards 5; Chautauqua and Cowley 2-3; Greenwood trace. (Sim).

WHEAT STREAK MOSAIC VIRUS - TEXAS - Infected irrigated wheatfield in Tom Green County. Probably transmitted by Eriophyes tulipae (wheat curl mite). (Wilson). KANSAS - First of season; trace amounts in Rice County wheatfield. (Sim).

INSECTS

BROWN WHEAT MITE (Petrobia latens) - OKLAHOMA - Very heavy on wheat in Roger Mills, Washita, Caddo, Beckham, and Custer Counties. Ranged 500-1,500 per linear foot in some fields in Kingfisher County. (OK Coop. Sur.). NEVADA - About 160 acres of winter wheat treated at Lovelock, Pershing County. (Munk et al.).

WHEAT CURL MITE (Eriophyes tulipae) - TEXAS - See Diseases for this section.

TURF, PASTURES, RANGELAND

INSECTS

RANGE CATERPILLAR (Hemileuca oliviae) - TEXAS - Egg and old pupal cases 1-2 miles south of Texline, Dallam County, 25-mile extension beyond previous infestations. (Patrick). NEW MEXICO - Egg clusters week of April 3 light along New Mexico State Highway 42 from U.S. Highway 285 to within 4 miles of U.S. Highway 60, six miles southwest of Yeso, De Baca County, a 25-mile extension beyond previous infestations; no old pupal cases. Currently, eggs and pupal skins recovered about 8 miles north of Lincoln and Guadalupe County line near U.S. Highway 285, a 7-8 mile extension into Guadalupe County. (NM Coop. Rpt.).

A SCARAB BEETLE (*Ataenius spretulus*) - OHIO - Adult flights March 26 and 29 on golf courses at Cincinnati, Hamilton County. (Wegner).

FORAGE LEGUMES

DISEASES

SOUTHERN ANTHRACNOSE (*Colletotrichum trifolii*) - NEBRASKA - Contributed to failure of some northeast area alfalfa to send up new growth. Stress conditions last year favored anthracnose development up to dieback stage. Some replanting with resistant varieties may be needed. (Riesselman, Watkins).

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - TEXAS - Ranged 5-30 per square foot in Fisher County with 5-60 percent of alfalfa terminals damaged. Light in new meadows in Wilbarger County; continued heavier and damaging in older fields. Adults heavy in half of these older fields. (Boring). OKLAHOMA - Larval counts by county: Tulsa 110-235 per 10 sweeps; Washington averaged 550 per 10 sweeps of untreated alfalfa, 5-120 per 10 sweeps in treated fields; Noble averaged 58 per square foot in treated fields; Le Flore, Haskell, Muskogee, and Wagoner tip infestations 5-50 percent; Garfield light. (OK Coop. Sur.). KANSAS - Some treating in Harper County and as far north as Douglas County with first-generation adults trace that far. Counts light in north-central and northwest districts. Pupation as far west as Comanche County. (Bell). NEBRASKA - One second-instar larva per 30 sweeps in one of 4 fields in Fillmore County. (Peters). Larvae increased in Richardson County. (Hopp).

TENNESSEE - Alfalfa weevil larvae 1-10 per 50 tips (below threshold) in treated fields surveyed in central area. Averaged one larva per tip (above threshold) in southern tier of counties of west area. (Locke). MISSOURI - Larval counts per stem by area: Central 7, east-central 4, northeast 1-3, and northwest 2. (Huggans et al.). ILLINOIS - Larvae up to 50 per sweep of some untreated 12 to 14-inch alfalfa in southern area. Leaf skeletonizing severe. Warm weather increased egg laying. Field averaging 80 eggs last period averaged 130 eggs per square foot this period. (IL Ins. Rpt.). WISCONSIN - First egg laying of season at Arlington, Columbia County. (WI Ins. Sur.). INDIANA - Conditions on 5 to 6-inch alfalfa by district: Central larvae averaged 1.6 and eggs 1.4 per stem on 44-92 percent of plants; southwest and south-central larvae 3-4 and eggs 2 per stem in untreated fields, but larvae 1-2 per stem in treated fields. (Meyer). OHIO - Larvae, averaged 167 per 100 sweeps of alfalfa, 2-3 weeks ahead of schedule in extreme southern counties. Larval averages per 100 sweeps by county: Clinton 3 and one, Adams 22 and 650, Brown 155 and 114, Scioto 55. (Lewis).

VIRGINIA - Alfalfa weevil infested 48 percent of tips in 13 fields (117 acres) of forage in Botetourt, Culpeper, Montgomery, Nottoway, Roanoke, Rockbridge, Warren, Washington, and Wythe Counties. Average estimated defoliation 10.6 percent. Three fields exceeded treatment threshold. Larvae averaged one-eighth of an inch. (Allen). MARYLAND - First significant tip injury in Frederick, Howard, Washington, Baltimore, and Carroll Counties March 27 through April 2. Tip injury by first and second-instar larvae

ranged 10-30 percent. Hatch and first signs of tip injury by alfalfa weevil 8-10 days earlier than in 1974 and 1975. Hatch continued in all sections of central area. Development 6-8 days earlier on Eastern Shore but tip injury appears less (5-20 percent). (U. Md., Ent. Dept.).

CLOVER LEAF WEEVIL (Hypera punctata) - MISSOURI - Heavy on red clover in south-central area. Light to moderate, 1-6 per square foot, in northeast area. (Craig, Huggans).

VARIEGATED CUTWORM (Peridroma saucia) - OKLAHOMA - First larvae of season swept from alfalfa in Mayes County. (OK Coop. Sur.).

BLACK CUTWORM (Agrotis ipsilon) - MISSOURI - First light trap catch of season March 20 at St. Joseph, Buchanan County. (Burgess).

ALFALFA CATERPILLAR (Colias eurytheme) - TEXAS - Larvae 10-25 per square foot in legume fields in Gregg County. (Lewis).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSISSIPPI - Adults and nymphs averaged 20 per 25 sweeps of crimson clover in Oktibbeha County. (Anderson). OKLAHOMA - Ranged 1-5 per 10 sweeps of alfalfa in Tulsa, Craig, Mayes, Rogers, Washington, Wagoner, and Muskogee Counties. (OK Coop. Sur.). WISCONSIN - Averaged 3 adults per 100 sweeps of alfalfa in Dane and Green Counties. (WI Ins. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MARYLAND - First nymphs of season, first instars 1-3 per square yard, on alfalfa and red clover in Washington and Frederick Counties week of April 2. (U. Md., Ent. Dept.).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEVADA - Began increase on one to 3-inch alfalfa in experimental plots at Reno, Washoe County. (Arnett et al.). UTAH - This species and A. pisum (pea aphid) on some Washington County alfalfa. (Roberts, Knowlton).

PEA APHID (Acyrtosiphon pisum) - KANSAS - Averages per sweep of alfalfa by county: Franklin up to 30, Lyon 40, Jefferson 43. Parasitism heavy in moderately infested alfalfa in Riley and Kiowa Counties. (Bell). WISCONSIN - Counts of 5 third-grown aphids per 100 sweeps of alfalfa in Dane and Green Counties. (WI Ins. Sur.).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Adults light; moved from overwintering sites in Nueces and San Patricio Counties. Moved into spring cotton in Lower Valley. Adults 5 per 100 row feet on March 29 in field near Waslaco, Hidalgo County; some adults caught in traps. (Rothrock et al.).

BOLLWORM (Heliothis zea) - TEXAS - Eggs 16 and larvae 203 per 100 cotton plants on March 29 at Weslaco, Hidalgo County. Most larvae newly hatched, some third or fourth instars. (Deer, Norman).

MISCELLANEOUS FIELD CROPS

INSECTS

REDBACKED CUTWORM (Euxoa ochrogaster) - OREGON - Third and fourth-instar larvae less than one per square foot in 80-acre mint field near Madras, Jefferson County. Hatch will increase with warmer weather; population increase is expected. (Danielson, Berry).

BEANS AND PEAS

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - TENNESSEE - Adults emerged in large numbers in Lincoln County. (Winsett).

COLE CROPS

INSECTS

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - This species and Pieris rapae (imported cabbageworm) heavy on cabbage and broccoli in south-central area. (Cole).

GENERAL VEGETABLES

INSECTS

ONION MAGGOT (Hylemya antiqua) - TEXAS - Heavy counts damaged onions in Hopkins County. (Lewis).

DECIDUOUS FRUITS AND NUTS

DISEASES

APPLE SCAB (Venturia inaequalis) - NEW YORK - First infection period of season in most areas insignificant except in orchards with high level of carryover inoculum from last year. Percent ascospore differential counts on McIntosh, silver tip, at Geneva, Ontario County, March 30: No spore formation 41 percent, spores in early stages of formation 19, spores formed but not colored 18, spores formed and colored 21, spores discharged one. Average of one ascospore per low-power field found in one-hour discharge test. (Arneson).

INSECTS

EASTERN TENT CATERPILLAR (Malacosoma americanum) - FLORIDA - First adults (males) of season in blacklight trap at Gainesville, Alachua County. (FL Coop. Sur.). ALABAMA - Many broods nearing full growth in cherry and other hosts in Limestone, Madison, Lauderdale, Marshall, and other north counties. Few new broods developed in Limestone and Morgan Counties. (Carter et al.). TEXAS - One tent per tree on peach, plum, and selected ornamental trees in Henderson County. (Lewis). OKLAHOMA - Moderate on wild plum in north-central, northeast, and east-central counties. Larvae 0.5-1.5 inches long. Heavy in Comanche County. (OK Coop. Sur.).

OHIO - First Malacosoma americanum of season in Scioto County 2 weeks earlier than in 1975. Few webs 2 inches long; larvae 0.25-0.38 inch long. (Lewis). VIRGINIA - Hatched throughout southeast area, larvae light to moderate. Tent number and size per tree (and larval length in inches) by area: Virginia Beach and Chesapeake averaged 7 tents 5-6 inches across (1.25), Isle of Wight County and City of Suffolk averaged 5-6 tents 4-6 inches across, Southampton County (0.5-0.75), York County and Newport News tents 2-8 inches across (0.5-1.5), Prince George County averaged 3 tents 4 inches across (0.75). (Allen). MARYLAND - First larvae of season March 22 near Eden, Wicomico County. Larvae active in all sections east of Frederick County by week of April 2. (U. Md., Ent. Dept.).

PLUM CURCULIO (Conotrachelus nenuphar) - TEXAS - Heavy damage to nectarines in some Houston County orchards. (Lewis).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - NEW YORK - Adults caught by baited pheromone traps in Ulster County after traps set March 25. (Weires).

PEAR PSYLLA (Psylla pyricola) - WASHINGTON - First nymphal instar on pear trees at Buena, Yakima County. (Britt, Eves). NEW YORK - Eggs laid past week along Ontario fruit belt. (Willson).

ORNAMENTALS

DISEASES

CEDAR-APPLE RUST (Gymnosporangium juniperi-virginianae) - TENNESSEE - Galls sporulated on juniper statewide. (Bogard).

INSECTS

A WHITEFLY (Aleuroplatus berbericolus) - NEW MEXICO - Pupae heavy on Mahonia spp. at Roswell, Clovis County, week of April 2; established problem in area. Pupae recovered from Mahonia spp. north of Las Cruces, Dona Ana County, April 3. Collected and identified by W. Iselin. This is a new county record. (NM Coop. Rpt.).

GREEN PEACH APHID (Myzus persicae) - FLORIDA - Adults moderate on 500 of 1,000 plants examined of Ixora coccinea (jungleflame ixora) in nursery at Ft. Lauderdale, Broward County. This is a new host record for State. (FL Coop. Sur.).

FOREST AND SHADE TREES

DISEASES

WHITE PINE BLISTER RUST (Cronartium ribicola) - WISCONSIN - Aecial blisters of fungus started to erupt on cankered white pine seedlings and saplings in Sauk County April 8. Disease caused extensive mortality of white pine seedling reproduction along creek where Ribes cynosbati (gooseberries) growing among pines. (WI Ins. Sur.).

INSECTS

PALES WEEVIL (Hylobius pales) - OHIO - Overwintered populations of this species and Pissodes approximatus (northern pine weevil) heavy in northeast area. Mating and egg laying throughout past month indicated need for immediate controls in Christmas tree plantations. (Balderston, Nielsen).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - WISCONSIN - Overwintered larval survival rate of 76 percent in red and Scotch pine tips near Two Rivers, Manitowoc County. (WI Ins. Sur.).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - NEW JERSEY - First hatched at Middlebush, Somerset County, on Scotch and Austrian pines April 4. Active on pine at Foxwood, Somerset County. (Ins.-Dis. Newsltr.).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - MINNESOTA - First emergence of season April 5 at North St. Paul, Saint Paul County. (Rossbach).

ELM LEAF BEETLE (Pyrrhalta luteola) - OKLAHOMA - First of season. Overwintered adults feeding on Siberian elm in Mayes and Payne Counties. (OK Coop. Sur.).

SYCAMORE LACE BUG (Corythucha ciliata) - OKLAHOMA - First of season. Moderate on sycamore in Pawnee County. (OK Coop. Sur.).

MAN AND ANIMALS

INSECTS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Adults active in Cimarron, Major, Comanche, and Creek Counties. (OK Coop. Sur.). NEBRASKA - First H. lineatum adults active in Lincoln County April 3. (Campbell, Baxter). NORTH DAKOTA - Hypoderma spp. larvae 1-20 (averaged 6) in 22 percent of 706 cattle, 10 percent increase over 1975 figures. Counts heavier due to decreased use of systemics. (Scholl).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Ranged 3-4 per head on cattle. Adults (165 males and 1 female) collected in Chickasaw County near buildings. (Combs). TENNESSEE - Heavy on herd of dairy calves in Lincoln County. (Winsett). NEW HAMPSHIRE - Adults active on warm days at Lee, Strafford County. First adults March 18. (Blickle).

HORN FLY (Haematobia irritans) - TEXAS - Light to moderate on cattle in Callahan, Concho, Irion, Llano, Mason, and McCulloch Counties. (Wilson). OKLAHOMA - Counts per head by county: Comanche unusually heavy for this early in the season, Noble averaged 800, Pawnee averaged 350, Mayes ranged 100-300, Payne up to 200, and Major 75-100. (OK Coop. Sur.). ARKANSAS - Increased on several cattle herds in south-central area. Heaviest counts ranged 50-100 per head. Lighter on herds following good control practices. (Boyer). MISSISSIPPI - Adults averaged 100+ per head on cattle in Oktibbeha County. (Combs).

MOSQUITOES - NEVADA - Overwintered Anopheles freeborni females bit humans at Fallon, Churchill County. (Alcorn). Overwintered Culex tarsalis females bit humans at Fallon in late March; landing rate 5-6 per minute. (Wood). TENNESSEE - Mosquitoes heavy in lowlands of western area. (Locke). MARYLAND - Various larval instars of Aedes sollicitans (saltmarsh mosquito) and A. cantator (brown saltmarsh mosquito) present week of April 2. Counts normal. (U. Md., Ent. Dept.). NEW HAMPSHIRE - Aedes spp. hatched in woodland pools at Hampton, Rockingham County, March 25. (Katkin).

SHORTNOSED CATTLE LOUSE (Haematopinus eurytarnus) - OKLAHOMA - Mainly this species moderate to heavy on cattle in Comanche County. (OK Coop. Sur.).

AMERICAN DOG TICK (Dermacentor variabilis) - NEBRASKA - Reported several times from hikers in Lancaster and Lincoln Counties. (Bell, Campbell). MINNESOTA - First of season April 4 in Stillwater, Washington County. (MN Pest Rpt.). WISCONSIN - On humans working wooded areas of Iowa County. (WI Ins. Sur.).

HOUSEHOLDS AND STRUCTURES

INSECTS

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - MARYLAND - Swarms continued statewide week of April 2. Swarm reports slightly fewer than in 1974 for this period. (U. Md., Ent. Dept.). NEW MEXICO - Light structural damage at Las Cruces, Dona Ana County. Alates recovered from colony. (NM Coop. Rpt.).

STORED PRODUCTS

INSECTS

HUMP SPIDER BEETLE (Gibbium psylloides) - NEW MEXICO - Collected from residence at Las Cruces, Dona Ana County, by J. Vorgas, February 26, 1976. Determined by T.J. Spilman. This is a new county record. (NM Coop. Rpt.).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ICHNEUMONID WASP (Bathyplectes curculionis) - OKLAHOMA - Percent parasitism of Hypera postica (alfalfa weevil) larvae March 30 to April 5 by county: Carter 14, Murray 61, Stephens 8, Garvin 26, Comanche 11, Jackson one, Kiowa one, McClain 4, Seminole 39, Lincoln 36, Kingfisher 4, Cleveland 4, Pottawatomie 16, Custer 2, Caddo 15, Washita 2, Blaine 2, and Payne 16. (OK Coop. Sur.). INDIANA - Adults observed during last 14 days in southwest and south-central district alfalfa fields. (Wilson, Meyer). OHIO - Adult flights underway in southern counties. Adults swept in Adams County. (Lewis).

LADY BEETLES - MISSISSIPPI - Coleomegilla maculata heavy in crimson clover in Oktibbeha County. Aphids heavy. (Anderson). ARKANSAS - Hippodamia convergens (convergent lady beetle) and C. maculata increased in south-central area. Reproduction light. (Boyer).

HONEY BEE (Apis mellifera) - NEW MEXICO - Fruit trees and dandelions in full bloom in Dona Ana, Eddy, and Chaves Counties. Bee buildup rapid. (NM Coop. Rpt.). OHIO - Generally very little winter kill. Significant amounts of maple, willow, and some dandelion pollen brought in, with nectar accumulation in southern counties and Columbus area. Supplemental feeding needed in many colonies this spring as early warm temperatures helped increase brood rearing and honey consumption. Colonies, especially in southern counties, split early to prevent swarming. (Rudloff).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - KENTUCKY - Adults averaged 4.3 and 3.0 per 100 sweeps of wheat in Fleming and Lewis Counties, respectively. Eggs collected in former county. (Sperka). OHIO - Adults averaged 6 per 100 sweeps of 6-inch wheat in Brown County; no eggs or larvae. (Lewis).

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - Eggs on 90 percent of 270 plants of Murraya paniculata (common jasmine) March 26 in nursery at Ft. Lauderdale, Broward County. (FL Coop. Sur.).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Active at Lott, new area for Falls County. Now infests large portion of western part of county. Active in Anderson County. (Doggett, Lewis). Collected from 30 mounds found on ranch in Blanco County by N.M. Moritz, April 1, 1976. Determined by R.L. Hodgdon. This is a new county record. (PPQ).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Larvae damaged 10 percent of tomato transplants in acre planting at Ashford, Houston County. Many full-grown larvae in soil in 58-acre field in Coffee County. (Wilson et al.).

SCREWORM (Cochliomyia hominivorax) - Total of 75 cases reported from continental U.S. March 28 to April 13 in Texas. Total of 168 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 227 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 91,701,000; all in Texas. Total of 38,367,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

General Vegetables - SWEETPOTATO WEEVIL (Cylas formicarius elegantulus), WEST INDIAN SWEETPOTATO WEEVIL (Euscepes post-fasciatus), SWEETPOTATO VINE BORER (Omphisa anastomosalis) infestations and damage light in 2+ acres of harvested sweet-potatoes at Hoolehua, Molokai. Less than 5 percent damaged by weevils. (Mau).

DETECTION

NEW COUNTY RECORDS

INSECTS

HUMP SPIDER BEETLE (Gibbium psylloides) NEW MEXICO - Dona Ana (p. 152).

RED IMPORTED FIRE ANT (Solenopsis invicta) TEXAS - Blanco (p. 153).

A WHITEFLY (Aleuroplatus berbericolus) NEW MEXICO - Dona Ana (p. 150).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 4/2-8, 2BL - ARMYWORM (Pseudaletia unipuncta) 83, BLACK CUTWORM (Agrotis ipsilon) 37, CORN EARWORM (Heliothis zea) 1, GRANULATE CUTWORM (Feltia subterranea) 49, TOBACCO BUDWORM (Heliothis virescens) 2, YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) 3. KANSAS - Garden City, 4/7, BL - ARMY CUTWORM (Euxoa auxiliaris) 1. Rossville, 4/6, BL - Black cutworm 2, VARIEGATED CUTWORM (Peridroma saucia) 1. OHIO - Wooster 4/3-9, 3BL - Armyworm 2.

WEATHER OF THE WEEK ENDING APRIL 11

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

TEMPERATURE AND PRECIPITATION: Heavy weekend rains in central and southern Texas diminished to light scattered activity on Monday. Showers and a few thundershowers turned up over parts of Colorado, New Mexico, and Utah. Scattered snowfall drifted into sections of Nevada and Arizona. Near or above normal temperatures dominated the Nation. Especially mild readings favored areas from the western Dakotas, into the interior of Washington and Oregon, where in places the mercury even climbed into the 70's. Along the Pacific coast and in the Northeast, thermometers registered mostly in the 50's. Elsewhere, 60's and 70's prevailed with a few 80's along the gulf coast. Readings in the 30's pushed northern Maine to the top as the Nation's cool spot. Typical early spring weather greeted the Plains and the Rockies on Tuesday. Forecasters spotted rain and snow capped peaks from the central Rockies, into northern California and western Oregon. Thundershowers in the Plains and the Southeast highlighted daytime precipitation patterns. A weak frontal system crossing the Plains touched off scattered afternoon thundershowers from western Kansas into South Dakota. Many showers and thundershowers persisted over Florida and the central gulf coast region. Midweek precipitation interrupted widespread fair weather across the Nation, in the form of a band of showers and thundershowers from north-central Texas southward into Mexico. Triggered by a stationary front, another area of scattered thundershowers traced the northeast Florida coast. Weather of the Week continued on page 158.

Initially I wish to establish that my personal research experience does not include work on tropical fruit flies; however, my former association with the Fruit Insects Research Branch of the Entomology Research Division and my present position on the National Program Staff has placed me in a unique position of having available the advice, views, and experience of some of the best scientific talent in the Agricultural Research Service. It is from the collective wisdom of these scientists that I have gathered the remarks which follow.

Few insect groups have been given the degree of research attention as that received by the tropical and subtropical fruit flies for valid economic reasons. The wealth of technology available for the control, suppression, or eradication of fruit flies is equaled or surpassed by that available for few other groups of insects. One of our greatest sources of satisfaction, as scientists, is to see the product of our research successfully put to use for the benefit of man. The degree of technology transferred for the successful control of fruit flies can be matched by few other groups of insects. In spite of the successes we have had and the progress we have made, there remains a tremendous amount of research to be done if we are going to meet the challenge presented to us by the present threat of fruit flies in the Western Hemisphere.

Some of the methods used in the past to combat fruit flies are no longer available to us. Considering the impact that the so-called "modern industrially civilized man" has had on himself and his environment, this is as it should be. We live here. We are responsible for our planet and our research must reflect this responsibility.

Every day seems to present a new fruit fly challenge. We are having invasions of the oriental fruit fly into California almost yearly; so far we have been successful in preventing a permanent infestation. The threat of Mexican fruit fly to our southern borders is always present. When Caribbean fruit fly was found in grapefruit going to Japan, losses in millions of dollars were prevented with the timely development of a successful treatment schedule. Melon fly remains an ominous threat. We now have infestations of Mediterranean fruit fly in California.

What are we going to do about these challenges? What are the priorities? It is readily apparent that we are engaged in a battle with many fronts. We can not afford to complete our research tasks in a one-two-three order. We must simultaneously face our research challenge in primarily four broad but interrelated areas:

1/ Amended from a paper presented at the annual meeting of the Entomological Society of America, New Orleans, Louisiana, on December 3, 1975.

2/ USDA, ARS, Beltsville, MD 20705

1. Research to aid in the elimination of incipient infestations, wherever they may occur.
2. Research to lead to the development of safe and effective commodity treatments including food quality maintenance.
3. Research to aid in the suppression and, hopefully, the eradication of established State or regionwide infestations.
4. Research to improve our capability to prevent infestations or reinfestations.

The first of these areas, elimination of incipient infestations, is probably of the highest priority for the various State and Federal action agencies. The great amount of technology already available must be adjusted to meet the great divergence of climatic, geographic, and logistic requirements of the areas in which these infestations do, or may, occur. Further, we urgently need better attractants, better traps, and better soil and foliar insecticides. In using the sterile insect approach, we need better and automated means of rearing insects, better means of handling and dispersing these insects, and better means of assessing or measuring the effectiveness of our operations.

The second area, safe and effective commodity treatments, is probably one of the most critical needs that we now have. This need is emphasized by the ever increasing amount of rapid travel and the quantity of produce entering into international trade. It is potentially one of the most embarrassing areas if we do not develop these treatments in a very expeditious manner. The success we had with treatment developed for the Caribbean fruit fly in grapefruit recently is only a start. We need new or better fumigants and fumigation procedures, and we certainly need to test other methods that might be used. There has not been enough commodity treatment research in recent years. We do not have treatments that we know are safe and effective for the number of new varieties of fruits and vegetables. For example, we have an urgent need for commodity treatments of tomatoes and peppers. It is a very sobering thought to imagine what might happen should the fruit fly invade the winter vegetable area in Mexico before we develop treatments for various commodities found there.

Concerning area three, State or regionwide eradication, we are currently engaged in a research program in Hawaii testing the feasibility of eradication of the three species of fruit flies found in that State. Very good progress is being made in that program. Unfortunately, with the invasion of the Mediterranean fruit fly into California, our research program involving the rearing and sterilization of oriental fruit flies had to be suspended in order that our rearing facilities and personnel might spend their time on rearing and sterilizing Mediterranean fruit flies for use in California. We sincerely hope this is a temporary setback.

With regard to the fourth area, prevention of infestation or reinfestation, the items mentioned earlier on better detection techniques, etc., certainly apply here. We also need to concern ourselves with host surveys, host determination, and host density,

using whatever means we may be able to command, including intensive ground surveys and remote sensing techniques. We need also to study the design and effectiveness of various schemes of barrier zones. Something must also be done to tighten our security regarding movement or introduction of produce or other host material. Our Nation, and indeed the countries of the Western Hemisphere, can ill afford failure in meeting the challenge given us by the tropical and subtropical fruit flies. We must succeed.

U.S. Dept. Agr.
Coop. Plant Pest Rpt.
1(14):155-157, 1976

Weather of the Week continued from 154.

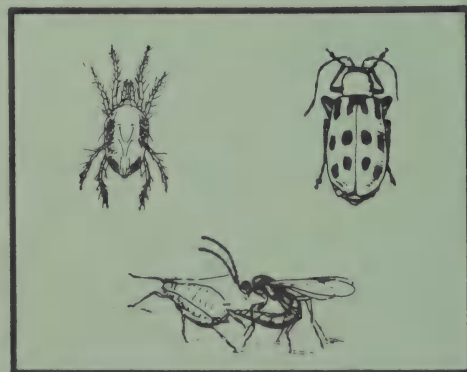
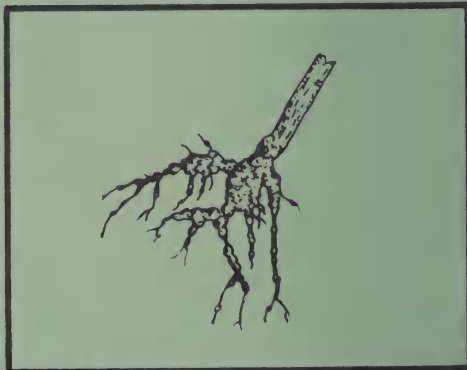
Nearly a dozen tornadoes and widespread hail created severe weather conditions as vigorous storms thundered across portions of Texas in the afternoon and evening. One location measured hail 2 inches in diameter and up to 7 inches deep from a single storm. Northward, thunderstorm gunned across the Plains States into South Dakota. Rains picked up strength along the Pacific coast and by evening, penetrated western Washington and northern California. As a trough of low pressure in the eastern Pacific joined forces with a cold front on Thursday, more light rain moistened the coast from Washington to southern California. Two other principal moisture areas were drizzle and rain from the central High Plains southward and rainshowers in northern Florida. Rains that occurred over most of California were welcome, especially in drought-stricken areas that at 3 p.m. claimed over an inch of rain in the last 24 hours. Daytime thundershowers over Florida during the day gave rise to some severe weather in the central areas where tornadoes uprooted trees, and windgusted to 65 m.p.h. Centered over the Ohio Valley, Friday's high pressure system swept cold air into the Lower Great Lakes and the Ohio Valley. Amid fair morning skies, the mercury dipped into the teens and twenties. During the day, cool weather held its ground in the Eastern United States where afternoon temperatures halted in the 40's from the eastern Great Lakes Region across the northern and central Appalachians into New England. At the same time, the expansive high pressure system produced favorable spring weather from the Great Plains to the Atlantic coast. Clear skies opened up from the central Plains into New England and south to Louisiana and Florida. Noontime readings in the 60's reached as far north as North Dakota.

Saturday's weather watchword in the Southeast--cold. Before sunrise, frost crept as far south as northern Georgia. Temperatures skidded into the 20's along the eastern portions of the Great Lakes Region, as the Ohio Valley pressure system pulled more wintry air into the Eastern United States. Record low honors went to Raleigh and Durham, North Carolina, 27 degrees and Little Rock, Arkansas, 35 degrees. Showers and thundershowers continued in the upper Mississippi Valley and and spread into portions of the central Plains and over southern Texas. Scattered rains drummed along the northern two-thirds of the Pacific coast. On Sunday, the large high shifted into the upper Great Lakes. From the central Plains through the Ohio Valley, forecasters pinned the blame for steadily declining temperatures on the complex system. Cooler air and lots of clouds dominated an area from western New England, across the Ohio Valley, into the central Plains. In the central Plains, temperatures slipped around 20 degrees from previous readings into the 40's and 50's in Nebraska and Iowa. By the end of the week, cold air gripped much of the Nation east of the Continental Divide. A band of showers and thunderstorms marked the tail end of the chilly blast. Some activity grew into heavy thunderstorms in west-central Texas where 0.40 inch in Lubbock exceeded its previous rainfall total so far this year.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

POWDERY MILDEW OF WHEAT outbreak in South Carolina. (p. 162).

ALFALFA WEEVIL counts above normal in Maryland and Ohio. Active in Iowa 3 weeks ahead of 1975 season. Tip feeding 50 percent or higher in Kansas and Nebraska. (pp. 163-164).

VARIEGATED CUTWORM and larvae of a NOCTUID MOTH severely damaged grapes in parts of California. (pp. 166-167).

Damage from TIP BLIGHT OF PINE severe in Indiana. (p. 167).

Detection

For new county and island records see page 170.

OLEANDER HAWK MOTH on a new host for Hawaii. (p. 169).

Some First Appearances of the Season

ARMYWORM adults in Kansas and Wisconsin. ASTER LEAFHOPPER in Wisconsin. BLACK CUTWORM in Indiana. ENGLISH GRAIN APHID in Wisconsin. FORAGE LOOPER in Wisconsin. THREECORNERED ALFALFA HOPPER in Alabama. MEADOW SPITTLEBUG in Wisconsin. COLORADO POTATO BEETLE in Oklahoma and Maryland. SPOTTED GARDEN SLUG in Maryland. ORIENTAL FRUIT MOTH in Pennsylvania. REDBANDED LEAF-ROLLER in New York. PECAN SPITTLEBUG and GRAPE FLEA BEETLE in North Carolina. COTTONWOOD LEAF BEETLES and DOGWOOD BORER in Alabama. A MYMARID WASP in Ohio. CEREAL LEAF BEETLE eggs in Virginia and Michigan.

Special Reports

Geographical Distribution and Economic Importance of the Black, Glassy, and Bronzed Cutworms. (pp. 173-179).

Annual Meeting for Work Plan Revision

All survey entomologists are requested to notify Dr. Douglas E. Barnett, CPPR, of the date, time, and location of the annual meeting for work plan revision at least one month prior to the meeting.

Reports in this issue are for the week ending April 16 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - NEBRASKA - Trace on 3 established alfalfa stands in Antelope County. Most larvae in third instar. (Koinzan). Larvae 1-6 per square foot on stands in Chase County. Most larvae 1.5-2.0 inches. Total of 9 fields checked. (Raun). NORTH DAKOTA - One winter wheatfield in Hettinger County infested with one larva per linear foot. Larvae half grown; damage evident. Absent in 17 other fields in this, Adams, Bowman, Golden Valley, Hettinger, and Slope Counties. (Brandvik).

ARMYWORM (Pseudaletia unipuncta) - ARKANSAS - Few larvae on wheat in Mississippi County. (Sterling). Infestations usually begin on small grains in late April. (Boyer). KANSAS - First adults of season April 13 in blacklight trap in Shawnee County, 69 on night of April 14. (Bell). WISCONSIN - First adult of season noted at light in De Forest, Dane County, night of April 15. (WI Pest Sur.).

ASTER LEAFHOPPER (Macrostoteles fascifrons) - WISCONSIN - First of season on winter rye in Dane and Rock Counties April 14 and in Waushara County April 15. Counts by county: Waushara one per 400 sweeps, Green one per 250 sweeps, and Dane 3 per 400 sweeps. (WI Pest Sur.).

BET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Dry conditions continued throughout breeding grounds of San Joaquin Valley. Nearly all favorable slopes drying fast and flats beginning to stress. Fresno received 0.30-inches rain April 10. If other breeding areas received same amount of rain, plants will revive and most beet leafhoppers will survive; acreage needing treatment will remain near maximum. (CA Coop. Rpt.).

GREENBUG (Schizaphis graminum) - KANSAS - Decreased considerably on wheat in southwest district; most fields with significant infestations had been treated. Heaviest count averaged 100 per row foot in Grant County; adults of Lysiphlebus testaceipes (an aphidiid wasp) abundant. Counts none to trace on wheat in south-central district due to this aphidiid wasp and lady beetles. (Bell).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - This species and Acyrtosiphon pisum (pea aphid) 100-200 per 25 sweeps of forage crops in Dona Ana County. Pea aphid averaged 300 and 500 per 25 sweeps in 2 fields at Virden, Hidalgo County. (NM Coop. Rpt.). KANSAS - Averages ranged 80-120 per sweep of alfalfa in one field each in Osage, Coffey, and Linn Counties. (Bell). NEBRASKA - Wingless aphids averaged 250 per 100 sweeps in one alfalfa field and trace in another field in Richardson County. (Hopp et al.). FLORIDA - Remained very light at Gainesville, Alachua County. (FL Coop. Sur.).

CORN, SORGHUM, SUGARCANE

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Pupation of overwintered borers averaged 25 percent in Sussex County. (Burbutis, Kelsey). WISCONSIN - Percent survival in cornstalks by county: Waushara 100 and Green 92. (WI Pest Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Medium-sized larvae spottily infested buds of sweet corn in large commercial field at Alachua, Alachua County. First spray of season applied earlier in day. (FL Coop. Sur.).

BLACK CUTWORM (Agrotis ipsilon) - INDIANA - First adult of season April 15-16, female in blacklight trap in Tippecanoe County. (Freeman).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - MISSISSIPPI - Heavy on corn in Pike County. Damage heavy enough on seedling corn to require replanting of 10 acres. (Mitchell).

SMALL GRAINS

DISEASES

POWDERY MILDEW OF WHEAT (Erysiphe graminis var. tritici) - SOUTH CAROLINA - Appeared in February, earlier than usual. Current outbreak on wheat statewide. Seriously infected 3-4 culm leaves. Some plants will not head or will produce inferior heads. May reduce yields 85 percent or more where severe. Infected several resistant varieties. (Kingsland). KANSAS - Varying amounts in Douglas, Franklin, Leavenworth, and Geary Counties. Most prevalent in heavily fertilized wheatfields. (Sim).

YELLOW LEAF BLOTCH (Pseudopeziza jonesii) - KANSAS - Percent of infected alfalfa by county: Stanton 15, Marion 10, Cowley 10, McPherson 5, Riley 2, and trace in other counties surveyed. (Sim).

RYE SEEDLING BLIGHT (Helminthosporium spp.) - SOUTH CAROLINA - Reduced rye yields 65-80 percent in large acreage in Chesterfield County. Had been planted in permanent sericea sod after 3 years of rye as winter crop. (Kingsland).

SOIL-BORNE WHEAT MOSAIC VIRUS - KANSAS - Symptoms faded as temperatures increased. Percent of infected wheatfields by county: Riley 25, Marion 20, McPherson 20, Dickinson 15 and 10, Rice 10, Barton 10 and 5, Saline 10, Russell 5, Ellsworth 5. (Sim). NEBRASKA - Yellowing of some wheatfields in southeast area attributed to presence of soilborne mosaic. Disease patterns variable. (Watkins et al.).

WHEAT SPINDLE STREAK VIRUS - INDIANA - Symptoms in extreme northern area. Disease now appeared in same general areas as in 1974, although symptom development 3-4 weeks later. (Stevenson et al.).

INSECTS

PALE WESTERN CUTWORM (Agrotis orthogonia) - MONTANA - Larvae causing concern in small grains at Great Falls, Cascade County. (Morris).

ENGLISH GRAIN APHID (Macrosiphum avenae) - WISCONSIN - First of season on April 15 in winter rye in Portage County. Winged aphid one per 400 sweeps. (WI Pest Sur.).

BROWN WHEAT MITE (*Petrobia latens*) - NEVADA - Heavy counts and damage to winter wheat continued at Lovelock, Pershing County. About 700 acres treated to date. (Munk). KANSAS - Some moderate counts on small drought-stressed wheat in Stanton, Kearny, and Grant Counties. Trace on wheat in Rice and Pratt Counties. (Bell).

TURF, PASTURES, RANGELAND

INSECTS

GLASSY CUTWORM (*Crymodes devastator*) - OREGON - Larvae heavy, averaged 2.4 per sample, in twenty 8-inch diameter turf cores from bluegrass field at Imbler, Union County. Late-instar larvae in 38-acre bluegrass planting at La Grande, Union County. (Kamm, Fisher).

FORAGE LEGUMES

DISEASES

SOUTHERN ANTHRACNOSE (*Colletotrichum trifolii*) - NEBRASKA - Infected scattered alfalfa plants in some fields north and west of Columbus, Platte County. Most infected plants dead. (Lane et al.).

SPRING BLACK STEM (*Phoma medicaginis*) - KANSAS - Percent of infected alfalfa by county: Marion 10, Cowley 10, McPherson 5, Riley 5, Ellsworth 2-3, and trace in other counties surveyed. (Sim).

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - FLORIDA - Adults 36 and larvae 281 in 100 sweeps of blooming alfalfa at Gainesville, Alachua County. Larval numbers stable last 14 days; adults declined noticeably. (FL Coop. Sur.). VIRGINIA - Infested 46 percent of tips in 11 fields (150 acres) of forage in Botetourt, Goochland, Montgomery, Powhatan, Washington, and Wythe Counties. Average estimated defoliation 13.4 percent. Serious damage in many fields. Four fields (36 percent) exceed treatment threshold. Larvae averaged one-eighth of an inch. (Allen). MARYLAND - Counts and damage above normal statewide week ending April 9. Damage on Eastern Shore ranged 30-80 percent with all larval instars present. Several hundred acres needed control for first time in 6 years. Central area well above normal with tip damage ranging 40-100 percent in 10,000 acres. Larvae 2-6 per tip in most heavily infested fields in Washington and Frederick Counties. Eastern Shore levels expected to increase next 10-14 days in central area where eggs still being laid. (U. Md., Ent. Dept.).

OHIO - Alfalfa weevil larvae per 100 sweeps (and percent of damaged stems) by county: Hamilton 130 (50), Warren 75 (15), Butler 42.5 and 12.5 (10 and 30 respectively), Preble 35 (0), Darke 100 (0), and Franklin 0.2 (0). Very heavy in southern area for this early in season. (Lewis et al.). INDIANA - Hatch of spring eggs begun. Mean larvae and eggs per stem (and mean percent infested) by district: Untreated alfalfa - west-central 1.7 larvae and 0 eggs (46), central 2.1 larvae and 0.2 eggs (46), east-central 0.8 larva and 0 eggs (25), southwest 4.1 larvae and 1.3 eggs (94), southeast 2.3 larvae and 1.2 eggs (63); treated alfalfa - southwest 1 larva and 1.1 eggs (90), north south-central 1.8 larvae and 1

egg (95) and south south-central 1.2 larvae and 0.7 egg (87). (Meyer). MISSISSIPPI - Third and fourth-instar alfalfa weevil larvae heavy on crimson and red clover in Oktibbeha County. (Smith). ARKANSAS - Following are new county records. Collected in house near white clover in Sevier County by J. Coulter, March 20, 1976. Determined by E.P. Rouse. Collected from crimson clover in Calhoun and Grant Counties April 8. Collected and determined by W.P. Boyer. (Boyer). MISSOURI - Larvae per forage legume stem by county: Grundy 0.2, Macon 3.0, Nodaway trace, Platte 7.0, Macon 3.0, Ralls 2.5, Knox 1.0, Clark 1.5, Boone 7.0, and St. Charles 6-7. (Huggans et al.). IOWA - Eggs increased in southern alfalfa fields. Averages per square foot by county: Decatur 57, Lee 56, Mahaska 36, Montgomery 22, Van Buren 74, Wapello 32, Warren 20, and Wayne 20. First or second-instar larvae in many southern fields; averaged more than one per stem in Lee and Van Buren Counties. Tip feeding light in Lee, Van Buren, Page, and Fremont Counties. Eggs and larvae expected to increase. Active 3 weeks ahead of 1975 season. (IA Ins. Sur.).

OKLAHOMA - Alfalfa weevil heavy on alfalfa in Wagoner County and in fields unsprayed for second time in west-central counties. Larvae averaged 78 per square foot in Noble County and light in Garfield County. Larvae declined in Stephens and Grady Counties due to pupation and newly emerged adults. Few adults in Payne County. (OK Coop. Sur.). KANSAS - Some alfalfa fields at or nearing treatment levels in eastern counties of central and possibly in north-central districts. Still light in western area. Damaged 50-100 percent of terminals in most fields checked in east-central, northeast, south-central, and central districts. Larval averages per stem ranged mostly 1.0-6.4. (Bell). NEBRASKA - Larvae averaged 435 and adults 7 per 100 sweeps of forage in Richardson County. Larvae first to fourth instar. Tip feeding averaged 50.5 percent. Alfalfa 8-12 inches. (Miller et al.). UTAH - All larval instars heavy; damaged some untreated alfalfa at St. George and Hurricane, Washington County. (Nye). CALIFORNIA - Controls for this species and H. brunneipennis (Egyptian alfalfa weevil) continued in many areas. Lack of early rain upset weevil activities. In most areas first cutting and, in warmer areas, second cutting also behind schedule. (CA Coop. Rpt.).

CLOVER ROOT CURCULIO (*Sitona hispidulus*) - NEW HAMPSHIRE - Damage heavy to clover at Durham, Strafford County. (Bowman).

EUROPEAN ALFALFA BEETLE (*Subcoccinella vigintiquatuorpunctata*) - PENNSYLVANIA - Adults and eggs on March 24 and larvae on April 7 on bouncing bet in Dauphin County. (Henry, Wheeler).

VARIEGATED CUTWORM (*Peridroma saucia*) - OKLAHOMA - Two half-grown larvae swept from alfalfa in Grady County April 9. (OK Coop. Sur.). KANSAS - Significant numbers of adults in blacklight trap in Shawnee County; 29 caught night of April 14. (Bell).

FORAGE LOOPER (*Caenurgina erechtea*) - WISCONSIN - First adult of season at light in De Forest, Dane County, night of April 14. (WI Pest Rpt.).

BLUE ALFALFA APHID (*Acyrtosiphon kondoi*) - NEVADA - Counts of 50 per stem on hay alfalfa in Pahrump Valley, Nye County, (Reeve). UTAH - Very heavy on alfalfa at St. George and Hurricane, Washington County. (Nye).

PEA APHID (*Acyrtosiphon pisum*) - FLORIDA - Increased 6-fold last 14 days. About 6,000 nymphs and adults per 100 sweeps of blooming alfalfa at Gainesville, Alachua County. (FL Coop. Sur.).

FALSE CHINCH BUG (*Nysius ericae*) - NEBRASKA - Adults and nymphs averaged 4,500 per 100 sweeps in alfalfa field heavily infested with pennycress in Richardson County. (Hopp, Miller).

MEADOW SPITTLEBUG (*Philaenus spumarius*) - WISCONSIN - First nymphs on dandelions in Grant County alfalfa field on April 13. Additional nymphs swept from alfalfa in Rock County April 14. (WI Pest Sur.).

THREECORNERED ALFALFA HOPPER (*Spissistilus festinus*) - ALABAMA - First of season. Adults 1-5 per 10 sweeps in many crimson clover fields and along highways in south and central areas. (McQueen).

COTTON

INSECTS

BOLLWORM (*Heliothis zea*) - ALABAMA - Occasional first-instar larva in buds of young cotton in Lowndes County. Occasional adult on crimson clovers in Montgomery, Dallas, and Autauga Counties. (McQueen).

TARNISHED PLANT BUG (*Lygus lineolaris*) - ALABAMA - Overwintered and first generations heavy on thousands of acres of crimson clover along highways and in fields and pastures in south and central areas. Counts 5-25 per 5 sweeps. Wild aster blooming throughout area in clovers; this species moved to cotton as clovers matured in lower south area. (McQueen).

TOBACCO THRIPS (*Frankliniella fusca*) - ALABAMA - Occasional adult on cotton in 200 acres in Lowndes County. Plants forming first true leaf. (McQueen).

POTATOES, TOMATOES, PEPPERS

INSECTS

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - KANSAS - Heavy in garden in Montgomery County. (Bell). OKLAHOMA - First adults of season on garden potatoes in Muskogee County. Averaged one per linear foot of row. (OK Coop. Sur.). MARYLAND - First adults of season from Somerset County. Feeding very light on early planted potatoes week ending April 9. (U. Md., Ent. Dept.).

COLE CROPS

INSECTS

YELLOWMARGINED LEAF BEETLE (*Microtheca ochroloma*) - FLORIDA - Moderate on 50 acres of cabbage at Monticello, Jefferson County. Collected by S. Walker, March 30, 1976. Determined by R.E. Woodruff. This is a new county record. Current larvae and adults

heavily infesting and damaging 0.25 acre of broadcast turnip patch in nursery at Tampa, Hillsbrough County. (FL Coop. Sur.).

IMPORTED CABBAGEWORM (Peris rapae) - PENNSYLVANIA - Adults began to emerge. (Kim).

GENERAL VEGETABLES

SLUGS & SNAILS

SPOTTED GARDEN SLUG (Limax maximus) - MARYLAND - First of season. Collected at home in Silver Spring, Montgomery County, April 16. (PPQ).

DECIDUOUS FRUITS AND NUTS

INSECTS

ORIENTAL FRUIT MOTH (Grapholitha molesta) - PENNSYLVANIA - First of season in pheromone trap in Adams County. (Tetrault).
WASHINGTON - Adult male in sex pheromone trap in peach at Wapato, Yakima County, April 12. (WA Tree Fruits P.M. Assoc.).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - NEBRASKA - Small tents evident on wild plum in Richardson, Pawnee, and Johnson Counties. (Miller). WISCONSIN - Larvae hatched at Middleton, Dane County, April 13. (WI Pest Sur.).

WESTERN TENT CATERPILLAR (Malacosoma californicum pluviale) - OREGON - Egg masses up to 100 per tree in backyard apple and pear trees at North Plains, Washington County. Heavy on filbert trees. Hatch began. (Goeden).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - NEW YORK - First catch of adult males taken in pheromone traps in Tompkins County April 12. (Willson).

WESTERN FLOWER THRIPS (Frankliniella occidentalis) - CALIFORNIA - Nectarines in San Joaquin Valley treated. (CA Coop. Rpt.).

PECAN SPITTLEBUG (Clastoptera achatina) - ALABAMA - First instars of season in scattered numbers on many pecan trees in Montgomery, Dallas, and Elmore Counties. (McQueen).

TWOLINED SPITTLEBUG (Prosapia bicincta) - ARKANSAS - Heavy on pecans in southeast area. (Wall).

HONEY BEE (Apis mellifera) - CALIFORNIA - Up to 6 bees per English walnut catkin, mining out immature pollen. Growers concerned this activity will be hazard to setting walnuts. (CA Coop. Rpt.).

SMALL FRUITS

INSECTS

NOCTUID MOTHS - CALIFORNIA - Peridroma saucia (variegated cutworm) and Orthosia hibisci damage severe in some grape vineyards in San Joaquin County; over half of grapevines have bud scales.

Noctuid larvae hiding under bark. Larvae do not take bait on ground. Sprays or baits applied in other counties. Growers concerned. (CA Coop. Rpt.).

GRAPE FLEA BEETLE (Altica chalybea) - ALABAMA - First report of season. Third to fourth-instar larvae feeding in occasional broods on grape leaves in Elmore County. (McQueen).

MEADOW SPITTLEBUG (Philaenus spumarius) - OREGON - Hatch began; first-instar nymphs in western Washington County strawberry fields April 3. Nymphs 1-2 per 5 crowns in 50-acre field. (Collins).

BLUEBERRY BUD MITE (Acalitus vaccinii) - NORTH CAROLINA - Damaged buds up to 70 percent in some fields but averaged 40 percent in major blueberry counties. Damage heavier on Murphy variety in Pender, Bladen, and Duplin Counties. (Mainland, Hunt).

ORNAMENTALS

DISEASES

CEDAR-APPLE RUST (Gymnosporangium juniperi-virginianae) - WISCONSIN - Galls on eastern redcedar erupted April 14, earliest occurrence in recent years. (WI Pest Sur.).

INSECTS

NATIVE HOLLY LEAFMINER (Phytomyza illicicola) - MARYLAND - Moderate to heavy in Prince Georges, Montgomery, and Anne Arundel Counties week ending April 19; damaged 30-80 percent of leaves. Light in other areas. (U. Md., Ent. Dept.).

LARGER CANNA LEAFROLLER (Calpodes ethlius) - ALABAMA - First of season. Third-instar larvae 3-5 on 10 canna lily plants in Elmore County. (McQueen).

FOREST AND SHADE TREES

DISEASES

TIP BLIGHT OF PINE (Diplodia pinea) - INDIANA - Damage continued severe on older, well established plantings of Austrian and Scotch pine. (Stevenson et al.).

INSECTS

NORTHERN PINE WEEVIL (Pissodes approximatus) - OHIO - This species and Hylobius pales (pales weevil) still mating and laying eggs in northeast area. Adults averaged 2 per stump (range 1-6 in Scotch and white pine tree plantations. All overwintered larvae now adults; no new larvae present. (Balderston).

COTTONWOOD LEAF BEETLES (Chrysomela scripta complex) - ALABAMA - First of season. Adults and scattered broods of second to third-instar larvae on willow trees along highways in Lee and Montgomery Counties. (McQueen).

DOGWOOD BORER (Synanthedon scitula) - ALABAMA - First of season. Adults emerged in Lee County April 10-11. Pupal skins, 1-5 per tree, protruded from infested trees on one lawn. (McQueen).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - FLORIDA - Adults averaged 366 per animal in small beef herd at Gainesville, Alachua County. (FL Coop. Sur.). OKLAHOMA - Ranged 600-800 per head on cattle checked in Noble and Pawnee Counties. Moderate to heavy in Comanche County. (OK Coop. Sur.).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

HONEY BEE (Apis mellifera) - OHIO - First report of swarming April 13 in Franklin County. (Connor).

A MYMARID WASP (Anaphes flavipes) - OHIO - First of season April 14. Recovered from Oulema melanopus (cereal leaf beetle) eggs on oats in Bedford Township, Coshocton County; beetle eggs 2 per square foot. (PPQ).

AN ICHNEUMONID WASP (Bathyplectes curculionis) - OKLAHOMA - Percent parasitism of Hypera postica (alfalfa weevil) larvae by county: Noble 6, Garfield 13, Payne 10, and Stephens 25. (OK Coop. Sur.).

A BRACONID WASP (Microctonus colesi) - OHIO - Parasitized 1.2 and 2.5 percent of adult alfalfa weevils collected March 3 and 30 in Franklin County. (Dowell).

FEDERAL AND STATE PROGRAMS

INSECTS

CARIBBEAN FRUIT FLY (Anastrepha suspensa) - FLORIDA - Larvae heavily infested fruits of all 1,000 plants of Eugenia uniflora (pitanga) in nursery at Miami, Dade County, by April 13. (FL Coop. Sur.).

CEREAL LEAF BEETLE (Oulema melanopus) - VIRGINIA - First eggs of season up to 0.6 per square foot in 3-inch oatfield in Bedford County April 12. MICHIGAN - First eggs of season collected from winter wheatfields in Berrien County April 14. (PPQ). OHIO - Adult averages per 100 sweeps of winter wheat by county: Preble 4.5, Butler 5.5, Warren 2.5, and Clermont 4.5. No damage. (Lewis).

GRASSHOPPERS - NORTH DAKOTA - Percent of egg development in Hettinger and Slope Counties: Clear 7, coagulated 88, and eyespot 5. Five percent of eggs desiccated; seven percent of egg pods destroyed by larvae of bee fly. (Brandvik).

MORMON CRICKET (Anabrus simplex) - COLORADO - Nymphs, first noted March 20, about 20 per square yard in Dinosaur National Monument and surrounding rangeland. Control by Nosema spores; no chemicals to be used. (Keenan).

RED IMPORTED FIRE ANT (*Solenopsis invicta*) - GEORGIA - Specimens taken from 2 mounds on farm near Waynesboro, Burke County, by F. Waller, March 22, 1976. Determined by E.B. Bauman. This is a new county record. SOUTH CAROLINA - Collected at Peak, Newberry County, by J.L. King, April 8, 1976. Determined by R.F. Bollinger. This is a new county record. (PPQ).

SCREWORM (*Cochliomyia hominivorax*) - Total of 91 cases reported from continental U.S. April 4-10 only in Texas. Total of 209 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 130 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 104,677,000; all in Texas. Total of 25,596,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

Fruits and Ornamentals - Several small colonies (25-30 aphids per colony) of GREEN PEACH APHID (*Myzus persicae*) on young leaves of old abandoned papaya tree at Wailuku, Maui. All stages including cast skins found. Rarely found colonizing papaya. (Miyahira et al.). Light counts and damage of a THRIPS (*Anaphothrips orchidii*) in 36 acres of anthurium blossoms at Kurtistown, Puna, and Panaewa, Hawaii Island. Counts heavy in 6 acres of untreated new plantings; nil in adjacent 5 treated acres. (Mau).

Beneficial Insects - Mating pair of a LADY BEETLE (*Harmonia conformis*) collected from potato at Kula, Maui, by R. Mau, December 3, 1975. Determined by J.W. Beardsley. This is a new island record. Introduction released only on Hawaii Island to control *Psylla uncatoides* (a psyllid). (Mau). A GALL FLY (*Procecidochares alani*) heavy on 50-90 percent of terminals of Hamakua pamakani in shaded areas around Hilo, Hawaii Island, and along the old Pali Road, Oahu. Light in north Kona; apparently established at new site (2,000 to 3,000 feet elevation) on Hawaii. Infested 10 percent of terminals. (Yoshioka et al.). Larvae of a PTEROPHORID MOTH (*Oidaematophorus* sp.) generally light on Hamakua pamakani at north Kona. Moderate to heavy damage in certain shaded areas and gulches; appears established at new site. Moderate at 4,000 feet, Volcano, Hawaii. (Matayoshi et al.). A BRACONID WASP (*Apanteles erionotae*) control of Erionota thrax (banana skipper) excellent at central and west Maui. Banana skipper light throughout Hilo. Parasite recovered from banana skipper larvae at Lanai City, Lanai, where released initially in late February 1976. (Miyahira et al.). A PTEROMALID WASP (*Pteromalus luzonensis*) parasitized 2 pupae of Papilio xuthus (citrus swallowtail) at Waikapu and Kahului, Maui. Appears established on Maui. (Miyahira).

Detection - Two late-instar larvae of OLEANDER HAWK MOTH (*Deilephila nerii*) found on Alstonia macrophylla (deviltree alstonia) at Hilo, Hawaii Island, by V. Kashiwamura, March 30, 1976. This is a new host record for Hawaii. (Kashiwamura, Beardsley).

DETECTION

NEW COUNTY AND ISLAND RECORDS

INSECTS

AN ANT (Crematogaster ashmeadi) - MISSISSIPPI - Abundant. Feeding on honeydew from aphids on shortleaf pine at Bude, Franklin County. Collected by T.E. Nebeker, November 1975. Determined by M.W. MacGown. Collected from shortleaf pines at Brookhaven, Lincoln County, by C.R. Brown, April 8, 1976. Determined by R.E. Anderson; confirmed by M.W. MacGown. These are new county records. (Anderson).

ALFALFA WEEVIL (Hypera postica) - ARKANSAS - Calhoun, Grant, Sevier (p. 164).

A LADY BEETLE (Harmonia conformis) - HAWAII - Maui (p. 169).

RED IMPORTED FIRE ANT (Solenopsis invicta) - GEORGIA - Burke; SOUTH CAROLINA - Newberry (p. 169).

YELLOWMARGINED LEAF BEETLE (Microthea ochroloma) - FLORIDA - Jefferson (p. 165).

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

MID-APRIL TO MID-MAY 1976

The National Weather Service's 30-day Outlook for mid-April to mid-May is for temperatures to average below seasonal normals over most areas west of the Continental Divide as well as the central Great Plains and the Carolinas. Above normal averages are indicated for the Great Lakes and the gulf coast. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median amount over the south Atlantic coast as well as the northern and central Great Plains, the middle Mississippi Valley, and west of the Divide except for the Pacific coast and much of the southern Plateau region. Elsewhere less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

LIGHT TRAP COLLECTIONS

LIGHT TRAP COLLECTIONS				Temperature °F.	Precipitation inches	Type of trap	Agrotis longipennis 0 = morose, vapor 1 = blacklight 2 = other	Agrotis longipennis (black cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tobacco budworm)	Lasiocampa pomonella (codling moth)	Toxostoma comitatus (garden webworm)	Toxostoma jamaica (garden webworm)	Toxostoma strigata (beet webworm)	Manduca sexta (tobacco hornworm)	Manduca quinquemaculata (tomato hornworm)	Oryctes nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaleia unipuncta (armyworm)	Spodoptera eximia (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (cabbage looper)	Crops	
FLORIDA Alachua 4/9, 10, 12 Gainesville 4/9-15			BL BL	2 3	22 7	2												1	2	5	1		1	
KANSAS Garden City 4/13 Roseville 4/13-14			BL BL	12	6	5												44	80			6	6	
MISSISSIPPI Stoneville 4/1-15	39-82	0.01	2BL	139	2													48	696	1			1	
MISSOURI West Central 4/13-16			BL	3														8	6					
OHIO Wooster 4/10-16			3BL	4															4					
WISCONSIN Mazomanie 4/8-15			BL																2					

WEATHER OF THE WEEK ENDING APRIL 18

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Based on weekly temperatures averaging up to 15 degrees above normal around the Great Lakes region, record breaking heat in the eastern United States more than offset a chilly blast of air that cooled area earlier in the week. Most of the Nation east of the Rockies averaged unseasonably warm readings. Limited precipitation contributed to summery spell in some eastern areas. Heaviest storm activity focused on central United States, and Texas produced damaging tornadoes and hail.

TEMPERATURE AND PRECIPITATION: Frigid air continued to invade the Northeast on Monday. Readings in the 20's and 30's set new record lows in Michigan and Ohio and the Northeast, from New England through New Jersey and portions of Pennsylvania. During the day, showers grew into thunderstorms in parts of Oklahoma, New Mexico, and north and central Texas. Though most evening activity diminished, scattered disturbances continued along the eastern slopes of the central Rockies through the southern Plains. Except for sections of the Gulf Coast States, sunshine brightened afternoon skies east of the Mississippi River. Unseasonably warm weather favored eastern Colorado and the western Dakotas, where Denver, Colorado (79 degrees), and Rapid City, South Dakota (80 degrees), boasted daily record highs. Cold air that bulldozed across the western United States on Tuesday produced snow in Nevada, Utah, and Arizona. Western temperatures ranged from the 30's and 40's in interior sections to the 50's along the Pacific coast and in the 60's in desert areas of the Southwest. In the eastern United States, mostly fair skies nudged warm temperatures to near normal following record low morning readings. Daytime highs ranged from 50's in the North to 70's and a few 80's in the South. Most of the Nation's thunderstorms rumbled through western and central Nebraska and South Dakota. Midday showers extended from Florida westward along the gulf and northward to the central Mississippi Valley. Under the center of a high pressure, fair skies opened from the lower Great Lakes region to the central Atlantic coast.

Wednesday's western precipitation pattern showed rainshowers with snow in the mountains across the southern Plateau region that spread into portions of the central Rockies. Later in the day, a band of heavy thunderstorms, accompanied by hail in places, reached from the central Plains and southward into Mexico. Three tornadoes touched down along the central Kansas and Nebraska border. Though cooler air from the west pushed into the northern Plains, mild temperatures kept a foothold in other parts of the central and eastern United States. Readings in the 70's prevailed as far north as Minnesota, Wisconsin, and Michigan. Credit for Thursday's diverse weather picture went to frontal systems in the Plains and northwest United States. By early afternoon, thunderstorms blossomed over parts of New Mexico, Colorado, and western areas of Texas, Oklahoma, and Kansas. From the Pacific coast through the Rockies, forecasters traced scattered rain and snow. Thunderstorms appeared from the Great Plains and middle Mississippi Valley region into the upper Great Lakes. Other weather featured lots of hail and around two dozen tornadoes mostly in western Texas and southern Wisconsin. End of the day thundershowers cut an almost continuous Weather of the Week continued on page 180.

Geographical Distribution and Economic Importance
of the Black, Glassy, and Bronzed Cutworms

Roy W. Rings 1/, G.J. Musick 2/, Armon J. Keaster 3/
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Over the past three years we have attempted to define the geographical distribution in the continental United States of subterranean cutworms attacking corn and vegetables. This effort is a subobjective of a multistate research project entitled "Bionomics and Management of Soil Arthropods" 5/.

In 1972, the Chief Staff Officer of the "Cooperative Economic Insect Report" provided us with distribution maps of a number of species from their file of pest survey reports. Additional records were obtained through the preparation of specific bibliographies based on a literature search of abstracting journals and pest survey reports. Each of the land grant universities in all 50 States was requested to provide us with distribution records from their insect reference collections. Cooperating States shipped unidentified cutworm larvae to Wooster, Ohio, where a cutworm identification center had been established. This process yielded still other distributional data.

The purpose of this paper is to present distribution records for three of the common subterranean cutworms and to briefly mention some outbreaks.

Outbreaks are defined as the sudden occurrence of exceptionally high populations of cutworms which result in significant crop losses in a given area.

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Black Cutworm

The known distribution of the black cutworm, Agrotis ipsilon (Hufnagel), is shown partially in Fig. 1; however, it undoubtedly occurs throughout the contiguous United States except in very dry areas which can not support succulent grasses or other ground vegetation. The species also occurs in Alaska and Hawaii and on all other continents besides North America.

The devastation caused by the black cutworm has most often been reported in the region east of the Mississippi River and in the contiguous States west of this boundary.

Lintner (1893) was the first to report an outbreak of this species which destroyed large acreages of onions on muck land in Canastota, New York. Crumb (1929) also reported a serious outbreak of black cutworms in 1908 in the Wabash and Ohio River valleys near Mount Vernon, Indiana, and in adjacent parts of Kentucky and Illinois during which hundreds of acres of corn were destroyed, causing an estimated crop loss of \$200,000.

In 1923 Latham described an outbreak of black cutworms near Orient, New York, which was the most severe ever known in that area. The greatest damage was caused to brussels sprouts, cabbage, cauliflower, and potatoes. Populations of cutworms, some reaching 25 per 4-inch plant, were reduced by digging trenches around infested fields. In Maine, Patch (1924) stated that, "Larvae of Agrotis ypsilon Rott. are migrating from a grain field to an adjoining potato field at Mapleton. Every plant that has barely pierced the ground is surrounded by 3 to 10 worms -- 100 acres of oats are being destroyed by cutworms."

Harned (1927) described considerable damage by black cutworms in the flooded section of the Delta in Mississippi. Some fields of cotton and corn were replanted two and some even three times. In 1930, the same author reported another outbreak on corn and cotton from Holmes, Tallahatchie, Lincoln, and De Soto Counties; at Belzoni several hundred acres of cotton had to be replanted because of complete crop destruction. It was reported anonymously in the 1933 "Insect Pest Survey Bulletin" that the black cutworm developed in outbreak numbers in the lowlands of southwestern Indiana, Illinois, and Ohio.

In many cases, outbreaks have been associated with flooding in river valleys which led to the name of "overflow worm" for Agrotis ipsilon. For example, Turner (1952) described a heavy outbreak of this species on several hundred acres of land flooded by the Connecticut River after agricultural crops such as corn and tobacco were replanted following flood damage. In Missouri, Kyd (1953) reported a statewide outbreak of Agrotis ipsilon in Missouri where the pest caused up to 80 percent reduction in some cornfields; the outbreak was extremely serious over the northern two-thirds of the State. Also in Missouri, Thomas et al. (1954) described an unprecedented infestation of black cutworms in field corn throughout the State, necessitating the replanting of about 500,000 acres from one to three times.

The black cutworm was extremely abundant and destructive in 1960 in many areas of Illinois destroying thousands of acres of corn with much replanting necessary (Anonymous, 1960).

In Maryland in 1961, cool, wet weather apparently favored a general outbreak of black cutworms on field and sweet corn in all sections of the State; injury was serious in more than 50 fields (Anonymous, 1961). Again in Maryland in 1966, a serious outbreak occurred in many cornfields regardless of the climatic history over most of the Eastern Shore (Anonymous, 1966).

In Iowa in 1971, outbreaks of the black cutworm were reported from 15 counties throughout the State; larvae averaged one per linear foot in corn and soybeans (Anonymous, 1971).

A review of the history of outbreaks indicates that devastating populations of the black cutworm are most likely to occur in river valleys particularly those which are subject to spring flooding. There are also indications that very heavy outbreaks may occur in two consecutive years.

Current Situation -- In Missouri in 1975, black cutworm infestations were widespread throughout the river flood plains and lowland and upland areas north of the Missouri River. In upland areas, cutworms were a problem typically in fields following soybeans or under minimum tillage. Scattered infestations found south of the Missouri River were primarily in the western counties of the State. Damaging infestations were reported from mid-May into June.

In Illinois in 1975, black cutworms were unusually abundant. It has been a decade (1965) since the last cutworm outbreak. Highest density populations occurred in the southern half of Illinois, but damage was present throughout the State with replanting of fields in some areas. The cutworm damage was most apparent in low-elevation fields and in fields with considerable surface debris where farmers practice chisel-plow and minimum-tillage cultivation.

Glassy Cutworm

The glassy cutworm, Crymodes devastator (Brace), ranges from the Atlantic to the Pacific coasts and from Alaska to Mexico. It is also reported from Argentina (Fig. 2). The first outbreak of the glassy cutworm was reported by C.V. Riley in 1887. He stated that three 15 to 20-acre timothy meadows near Richmond, Indiana, were totally destroyed. Riley personally visited the fields and identified the major pest as C. devastator, but smaller numbers of the bronzed cutworm were also found in the infested fields. Forbes (1905) in Illinois and Gillette (1891) in Iowa considered this species to be the most serious pest of its kind to corn and turf grass. Smith (1910) found it to be one of the most destructive of the field cutworms in New Jersey. Brace (1818) reported that these cutworms attacked almost all kinds of vegetables, preferring beans, cabbage, and corn.

In 1957 J.J. Davis reported for the year 1956 that the glassy cutworm was a much more serious pest in Indiana than it had been for many years. The greatest damage was to corn in light, sandy soils. Many thousands of acres of corn were destroyed in Starke, La Porte, and other northern Indiana counties.

In 1968 there was an article in the "Cooperative Economic Insect Report," stating that Crymodes devastator was severe on 12,000 untreated acres of corn which followed sod in Allamakee County, Iowa (Anonymous, 1968).

Bronzed Cutworm

The bronzed cutworm, Nephelodes minians Guenée, apparently occurs throughout the United States and southern Canada but is most abundant from Missouri to Maine and from Minnesota to West Virginia (Fig. 3).

During the spring of 1925 and 1926 there was a severe outbreak of the bronzed cutworm in central Ohio. In parts of Licking, Knox, and Morrow Counties, bluegrass pastures and sod in orchards were destroyed. Infested areas appeared "stricken by drought," and the dead sod could easily be removed by hand revealing large numbers of cutworm. (Pierstorff et al. 1931).

Two outbreaks have been reported from the Tantramar dykelands in New Brunswick, Canada. This first outbreak occurred from 1927 to 1931 near Sackville on couchgrass and timothy. Larvae averaged 16 per square foot of sod. The second outbreak occurred in the Tantramar marshes near Amherst from 1935 to 1937. This outbreak covered an area of three square miles in the Midgie section of the Tantramar dykelands, with scattered local outbreaks in the valleys of the La Planche, Missiquash, Aulac, Memramcook, and Petitcodiac Rivers (Anonymous, 1935 and 1938).

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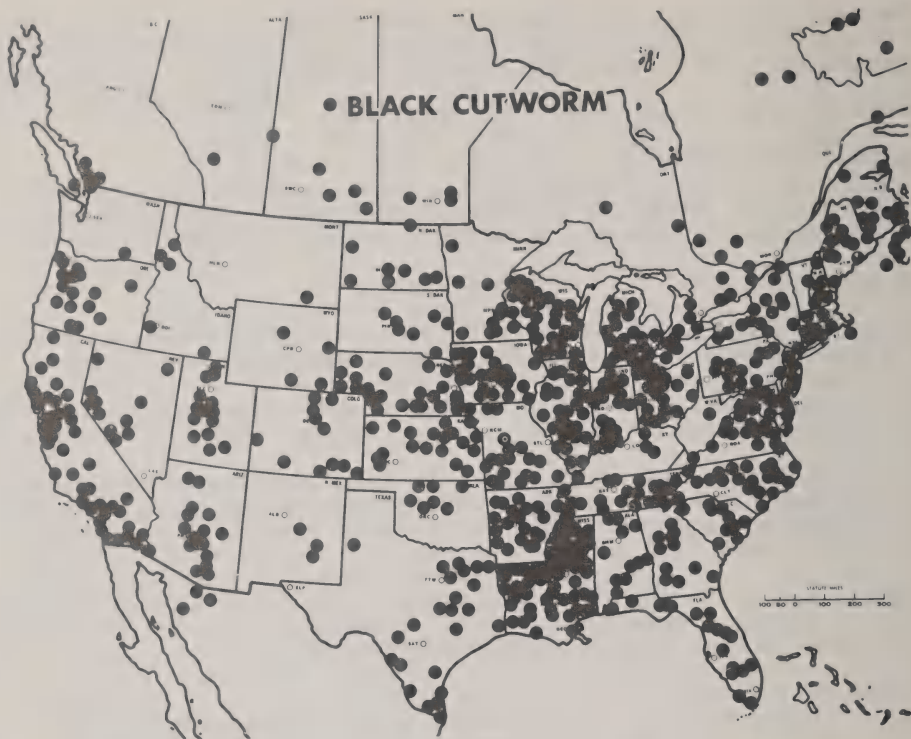


Fig. 1. Geographical distribution of the black cutworm in the contiguous United States and lower Canada.



Fig. 2. Geographical distribution of the glassy cutworm in the contiguous United States and lower Canada. Outbreaks are indicated by stars.

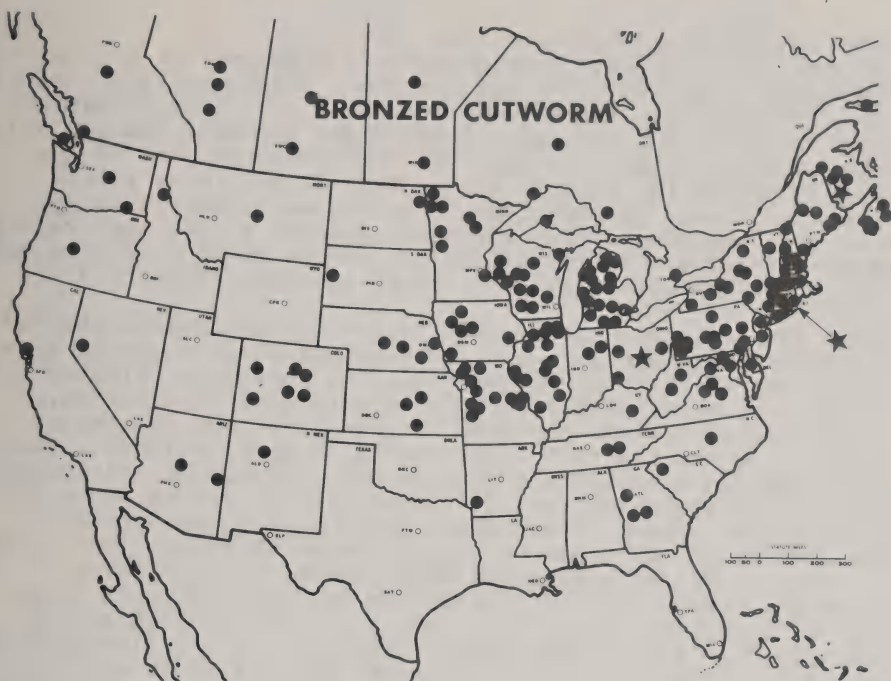


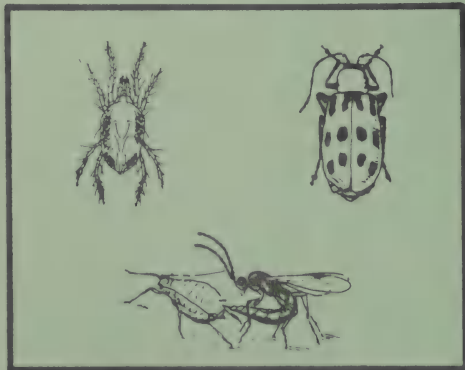
Fig. 3. Geographical distribution of the bronzed cutworm in the contiguous United States and lower Canada. Outbreaks are indicated by stars.

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

POWDERY MILDEW OF WHEAT moderate to heavy on wheat in parts of Kansas. (p. 184).

ALFALFA WEEVIL controls applied in parts of Missouri. Damaged tips heavy in southern Ohio and Maryland. (pp. 186-187).

First SCREWORM case of season for Arizona. (p. 193).

Detection

A SOFT SCALE is a new State record for Indiana. (p. 191).

For new county records, see page 193.

Some First Appearances of the Season

EUROPEAN CORN BORER moths in Missouri, Wisconsin, and Delaware. LEAF RUST OF WHEAT in South Carolina. REDBANDED LEAFROLLER in Michigan and New Hampshire.

Special Reports

Pink Bollworm Quarantines. Map. Centerfold.

Reports in this issue are for the week ending April 23 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (*Euxoa auxiliaris*) - NEBRASKA - Larvae up to 2 per foot of row in 35 wheatfields in southern half of northwest district. Larvae 0.5-1.0 inch long. Trace in 8 alfalfa fields in area. (Hagen).

ARMYWORM (*Pseudaletia unipuncta*) - ALABAMA - Second to third-instar larvae occasionally on wheat and fescue grass in several fields in Limestone County. (Eich et al.). ARKANSAS - Larvae occasionally on wheat on farm near Fayetteville, Washington County. Only infestation possibly requiring treatment reported in St. Francis County, where 4 fields averaged 6 small larvae per square foot. (Boyer). MARYLAND - Adults averaged 20 per night in blacklight traps on Eastern Shore, 7-10 days earlier than in 1975. (U. Md., Ent. Dept.).

ASTER LEAFHOPPER (*Macrosteles fascifrons*) - WISCONSIN - Counts per 100 sweeps by county: La Crosse one on alfalfa, Eau Claire 5 on winter wheat, Portage one per 200 sweeps of winter rye, southern area averaged 6 per 100 sweeps on advanced winter rye. (WI Pest Sur.).

CORN LEAF APHID (*Rhopalosiphum maidis*) - TEXAS - Light on sorghum along Rio Grande Valley, beneficial insects heavy, week ending April 16. Corn leaf aphids moderate in Robertson and Burleson Counties and few winged aphids in two 40-acre fields in Collin County. (Deer et al.). Currently light in several fields in Williamson and Milam Counties and in many fields of grain sorghum in gulf coast area. (Glodt et al.).

GREENBUG (*Schizaphis graminum*) - TEXAS - Still light on sorghum in Blacklands area week ending April 16. Some spotting of leaves in isolated fields of Bell and Falls Counties. (Hoelscher et al.). Currently very light on grain sorghum in Williamson, Robertson, Brazos, and Milam Counties. (Cole, Glodt). Up to 3 per foot of drill row on small grains in Archer, Baylor, Hardeman, Wichita, and Wilbarger Counties. Beneficials active. Greenbugs 2,000 per row foot in isolated wheatfields in Deaf Smith, Randall, and Hutchinson Counties. Control by parasitic wasps and predators good in some fields. (Boring, Patrick).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEBRASKA - Averaged 37.8 per 100 sweeps in 4 Otoe County fields. (Manglitz). Averaged 56 per 100 sweeps in 4 alfalfa fields surveyed in Johnson, Lancaster, and Gage Counties. (Keith et al.). WISCONSIN - Nearly full grown on Crawford and La Crosse County alfalfa. Counts of one per 50 sweeps in La Crosse County and 11 per 50 sweeps in Crawford County. (WI Pest Sur.).

TOBACCO BUDWORM (*Heliothis virescens*) - FLORIDA - Light to moderate on shade-grown and flue-cured tobacco in northern growing area. Controls applied. (FL Coop. Sur.).

CORN, SORGHUM, SUGARCANE

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - MISSOURI - First adult of season trapped in southeast area April 19. (Sheeley). SOUTH DAKOTA - Survival of 85 percent in corn in 9 southeastern counties; all stalks infested. Live borers per 100 stalks 88-324. (Walgenbach). NORTH DAKOTA - All survived in 3 of 5 fields in Ransom County and in one of 6 fields in Dickey County. (Scholl). WISCONSIN - Survival of 92 percent in Chippewa and Iowa Counties. (WI Pest Sur.). MARYLAND - First significant adult flights of season on Eastern Shore 10-14 days earlier than in 1975. Pupation 60 percent. (U. Md., Ent. Dept.). DELAWARE - Pupation of overwintered borers averaged 65 percent in Sussex County. First of season in blacklight traps in Sussex County averaged 3 per night. (Burbutis).

SOUTHWESTERN CORN BORER (*Diatraea grandiosella*) - ALABAMA - Overwintered survival of 60 percent in cornfield in Morgan County and 33 percent in another field. (Rutledge et al.). TEXAS - Overwintered survival rate of 27 percent in unplowed stubble of completely infested field and 50 percent in another field with 15 percent infestation in Hale County April 14. (Latham).

FALL ARMYWORM (*Spodoptera frugiperda*) - FLORIDA - Light, one adult per sex pheromone trap per night, on field corn at Hastings, St. Johns County. Nearly all traps positive. Larvae on buds of field corn still very light. (FL Coop. Sur.).

A WEEVIL (*Sphenophorus callosus*) - NORTH CAROLINA - Adults damaged 25 percent of 5-inch corn in 25-acre field in Bladen County; averaged 2 adults per plant in heavily infested border rows. Damaged up to 50 percent of plants in Bladen, Columbus, and Robeson Counties. (Hunt).

YELLOW SUGARCANE APHID (*Sipha flava*) - TEXAS - Fewer than one per grain sorghum plant, some very small seedling leaves lost, in Rio Grande Valley week ending April 16. Still light with maximum plant infestation rate of one percent. (Deer et al.). Currently light on grain sorghum in gulf coast area. (Rothrock et al.).

CHINCH BUG (*Blissus leucopterus leucopterus*) - TEXAS - Averages of 2-3 per grain sorghum plant damaged most fields in Delta County. (Lewis).

SMALL GRAINS

DISEASES

POWDERY MILDEW OF WHEAT (*Erysiphe graminis* var. *tritici*) - KANSAS - Percent of infected wheat in fields surveyed (and degree of infection) by county: Franklin 5-90 (light to heavy), Anderson 70-90 (moderate to heavy), Linn 70 (moderate), Miami 40-60 (moderate), Douglas 5-70 (light to moderate), Coffey 20-60 (light to moderate), Johnson 40-95 (moderate to heavy), Labette 90 (moderate), Montgomery 30-90 (light to heavy), and Jefferson 30 (light to moderate). (Sim).

SPECKLED LEAF BLOTCH OF WHEAT (Septoria tritici) - MICHIGAN - Disease on winter wheat throughout southern area. Leaf drop occurred; lesions with dark pycnidia. (Smith).

LEAF RUST OF WHEAT (Puccinia rubigo-vera tritici) - SOUTH CAROLINA - First symptoms on wheat in western area on formerly resistant variety. (Kingsland).

WHEAT SPINDLE STREAK VIRUS - KENTUCKY - Severe symptoms in several Todd County wheatfields week ending April 13. (Stuckey).

BARLEY YELLOW DWARF VIRUS - KANSAS - Percent infected barley plants in fields surveyed by county: Labette 50, Brown 1-2, Jefferson 2-3. Infected about 50 percent of oats in field in Labette County and 40 percent of wheat in fields surveyed in Montgomery County. (Sim).

WHEAT STREAK MOSAIC VIRUS - TEXAS - Symptoms in wheatfield of about 3 acres in Denton County week ending April 16. Eriophyes tulipae (wheat curl mite) determined from infected wheat. Currently, wheat curl mite and wheat streak mosaic virus in wheat in Sherman and Hutchinson Counties. (Patrick).

INSECTS

PALE WESTERN CUTWORM (Agrotis orthogonia) - NEBRASKA - Potential for economic damage to wheat in southern two-thirds of Cheyenne County. Larvae fewer than 1-2.5 per foot of row and between 0.25-0.75 inch long. Beginning to feed on green above ground portions. Wheat growth ahead of normal. (Hagen).

ENGLISH GRAIN APHID (Macrosiphum avenae) - WISCONSIN - Winged adults and nymphs on oats in Waushara, Dane, and Sauk Counties. Swept from winter rye in Portage, Iowa, and Sauk Counties. (WI Pest Sur.).

BROWN WHEAT MITE (Petrobia latens) - TEXAS - Ranged 11-230 per foot of drill row on small grains in Archer, Baylor, Foard, Hardeman, and Wilbarger Counties. Rainfall throughout area should reduce brown wheat mite and winter grain mite infestations. Dry conditions favored buildup in panhandle area. Up to 3,000 in Dallam County. Recent rains may alleviate problem. (Boring, Patrick).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Ranged 14-170 per foot of drill row on small grains in Archer and Baylor Counties. (Boring).

WHEAT CURL MITE (Eriophyes tulipae) - TEXAS - See Diseases under Small Grains.

TURF, PASTURES, RANGELAND

INSECTS

A WHITE GRUB (Phyllophaga sp.) - TEXAS - Counts of 8-10 per square foot severely damaged St. Augustine and Bermuda grass lawns in Lamar County. Damaged lawns at Amarillo, Potter County. Counts of 7-10 per square foot. (Lewis, Patrick).

A SCARAB BEETLE (Ataenius spretulus) - OHIO - Adults active over golf course fairways at Cincinnati, Hamilton County, first 3 weeks of April. Adults 6-10 per square foot in crown and thatch of turf in fairways. Females ready to lay eggs. (Niemczyk, Wegner).

RANGE CATERPILLAR (Hemileuca oliviae) - TEXAS - Present in panhandle within area from Texline to 3 miles south. No eggs or pupae in areas north, south, and east of above area. Infestation in Dallam County appears minor. (Patrick).

FORAGE LEGUMES

DISEASES

SPRING BLACK STEM (Phoma medicaginis) - KANSAS - Percent of alfalfa plants infected by county: Jefferson 2-3, Jackson 20, Brown 20, Cloud 100, Marshall 60, and Nemaha 100. Generally light. (Sim).

INSECTS

ALFALFA WEEVIL (Hypera postica) - UTAH - Some notching of young alfalfa foliage in Salt Lake County. (Knowlton). Moderate damage to alfalfa in "Dixie Area," Washington County. (Huber). First eggs in green alfalfa stems April 20 at north Logan, Cache County. (Spaid). NEW MEXICO - Larvae in Pecos Valley, Eddy and Chaves Counties 4-9 per 25 sweeps with 25-30 percent of tips damaged in some forage fields, about half of accepted economic threshold. (NM Coop. Rpt.). TEXAS - Larvae 10-20 per square foot of alfalfa in Lipscomb, Hemphill, Wheeler, and Collingsworth Counties. Chemical control initiated on some fields in Collingsworth County. (Patrick). ARKANSAS - Larvae 450-500 per 100 sweeps of alfalfa on farm near Fayetteville, Washington County. Alfalfa treated 3 weeks ago. (Boyer). MISSOURI - Larvae per forage stem by area: Central 7, northwest 4, north-central 0.6. Controls applied in southern, central, east-central, and northwest areas. (Huggans). NEBRASKA - Larval and adult averages per 100 sweeps (and average percent of tip feeding) of forage by county: Otoe 144.9 larvae, 3.9 adults, (10); Johnson, Lancaster, Gage 137 larvae, 6 adults, (10). (Manglitz et al.). First and second-instar larvae active in Dundy County. (Schade).

IOWA - Alfalfa weevil egg laying continued in southern area alfalfa. Averages per square foot by county: Audubon 72, Cass 88, Harrison 13, Mills 80, Montgomery 16, Pottawattamie 52, and Shelby 60. Larval tip feeding and counts light to moderate. Cooler weather slowed activity. (Stockdale). ILLINOIS - Continued buildup. Most fields in southern area need second treatment. Larvae 0.5-3 per tip, tip feeding averaged 10-90 percent, in central area; treatment underway. Feeding by young larvae still light in northern area. (IL Ins. Rpt.). INDIANA - Mean larvae per infested alfalfa stem (and mean percent infested) by district: Northwest 2.1 (35), north-central 2.4 (80), northeast 2.2 (42), west-central 2.3 (75), central 2.3 (69), and east-central 1.9 (58). Little damage. (Moriyama et al.). OHIO - Larvae, mostly full grown, and damage in south half of State appear near or above economic threshold levels; parts of some untreated fields appear "frosted" due to nearly complete defoliation. Larvae per 100 sweeps (and percent of damaged stems) of forage by district: Southeast 1,840 (15-100), south-central 1,140 (85), central 166-367 (5-10), west-central 445 (10), and northeast 2 (0). (Lewis et al.).

WISCONSIN - Alfalfa weevil egg laying accelerated greatly with warm temperatures on April 15-18 at Arlington, Columbia County. Overwintered egg survival appeared high; hatch began April 15 and peaked April 20 following very warm temperatures. (WI Pest Sur.). MICHIGAN - Adults damaged alfalfa new growth in Ingham County April 7. (Jennings).

ALABAMA - First-generation alfalfa weevil larvae damaged alfalfa, crimson, and white clover in Limestone and other north counties. First-generation larvae pupating. (Boseck et al.). TENNESSEE - Counts light to heavy, damage slight to severe, in Lincoln County. Nearly all fields treated. (Winsett). All fields surveyed in western southern tier of counties above control levels. (Locke). NORTH CAROLINA - Average larval infestations of 30 percent, some fields up to 50+ percent, in Piedmont and mountain areas. Controls applied in most Piedmont fields. (Hunt).

VIRGINIA - Alfalfa weevil infested 58 percent of tips in 11 forage fields (130 acres) in Botetourt, Culpeper, Goochland, Montgomery, Powhatan, Pulaski, Washington, and Wythe Counties. Average estimated defoliation 15.4 percent. Serious damage in most fields. Five fields (45 percent) exceed recommended treatment threshold. Larvae averaged one-eighth inch. (Allen). WEST VIRGINIA - Larvae 209 per 50 sweeps in Mason County. Percent infestation (and percent damage) in alfalfa by county: Mason 100 (70), 76 (35), and 54 (20); Putnam 50 (20); Jackson 80 (25) and 40 (20). Larvae 90 and adults 2 per 50 sweeps in Jackson County. (Hacker). MARYLAND - Damage statewide week ending April 16 above normal for second consecutive year. Seasonal development 10-14 days advanced over last season. Heavy damage (50-100 percent tip injury) expected to continue in western and central areas. Pupation to peak on Eastern Shore second or third week of May and in central area, the third and fourth week of May. About 60 percent of fields in central area will be treated this season. Current damage to first alfalfa cutting continued heavy statewide; heaviest on about 6,000 acres in central area. Damage ranged 80-100 per 100 tips. Several hundred acres almost completely lost. Counts heavier than 1975's above average levels. (U. Md., Ent. Dept.). DELAWARE - Larval feeding severe in alfalfa in various areas. (Burbutis).

PENNSYLVANIA - Small alfalfa weevil larvae heavy across southern half of State. Spring egg laying very light to date. Controls will probably be needed in majority of fields. (Gesell). NEW JERSEY - Larval damage in every Burlington County field examined. Larvae 300-1,000 per 100 sweeps on 8 to 10-inch alfalfa. Parasitic wasps easy to spot in some fields; absent in other fields. (Ins.-Dis. Newsltr.). NEW YORK - Adults active at Ithaca, Tompkins County. (Mellors).

PEA LEAF WEEVIL (Sitona lineatus) - IDAHO - Damaged alfalfa in Latah, Nez Perce, Lewis, and Idaho Counties, and red clover and sweetclover in Latah County. Usual flight in alfalfa in rim region south of Genesee and at Spalding. (Fisher, Kambitsch).

ALFALFA SNOUT BEETLE (Otiorhynchus ligustici) - NEW YORK - Adults active on soil surface on sunny days in infested Wayne County area. (Mellors).

TARNISHED PLANT BUG (Lygus lineolaris) - ALABAMA - Usual heavy infestation of all stages, 2-10 per 5 sweeps, on crimson clover in Shelby, Morgan, Limestone, Jackson, and other north counties. (Eich et al.). NEBRASKA - Adults averaged 3 per sweep of fall-seeded alfalfa field in Merrick County. (Raun). Adults trace in 8 fields in Johnson, Lancaster, and Gage Counties. (Keith et al.).

MEADOW SPITTLERBUG (Philaenus spumarius) - OHIO - First spittle masses on south-central area alfalfa April 20. (Lewis).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEVADA - This species and A. pisum (pea aphid) heavy on 90-acre year-old hay alfalfa field at Fallon, Churchill County. About half of plants with all top foliage killed. Many lady beetle larvae and adults and Geocoris sp. (a big-eyed bug) nymphs and adults present. (Stitt). UTAH - This species severely injured alfalfa at "Dixie Area," Washington County. Controls necessary. (Huber).

PEA APHID (Acyrtosiphon pisum) - WISCONSIN - Averaged 6 per 100 sweeps of alfalfa in Trempealeau, Dane, Sauk, and Crawford Counties. High percentage of full-grown aphids with well developed nymphs in their abdomens. Reproduction to begin by weekend. About 20 percent parasitized or diseased. (WI Pest Sur.).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Adults in some cotton fields along Rio Grande Valley week ending April 16. Some terminal damage adjacent to overwintering sites. (Deer, Norman). Current activity in gulf coast area about same. Few weevils feeding on young terminals in fields next to overwintering quarters. Spraying may be necessary in some spots. (Rothrock, Robinson).

BOLLWORM (Heliothis zea) - TEXAS - Larvae in nearly all cotton across Rio Grande Valley week ending April 16. Up to 90 percent terminal loss in few isolated spots in some fields near Raymondville, Willacy County, 1-2 percent of any one field. Many beneficial insects and spiders feeding on bollworms and aphids in nearly all cotton. Eggs rapidly declined, fewer than one per 20 row feet. Averaged fewer than one adult per night at Weslaco, Hidalgo County. (Deer, Norman). Current bollworms on cotton terminals on gulf coast. Light traps averaged one adult per night in Williamson County. (Rothrock, et al.).

POTATOES, TOMATOES, PEPPERS



INSECTS

GREEN PEACH APHID (Myzus persicae) - CALIFORNIA - Unusually heavy on young tomato plantings, treatment required, in Imperial County. (CA Coop. Rpt.).

PINK BOLLWORM QUARANTINES

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
COORDINATING WITH AFFECTED STATES

COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED;
COUNTIES PARTIALLY COLORED ARE PARTIALLY REGULATED.

 GENERALLY INFESTED AREA - STATE AND FEDERAL REGULATIONS.
 COOPERATIVE STATE AND FEDERAL SUPPRESSIVE AREA.

RESTRICTIONS ARE IMPOSED ON MOVEMENT OF REGULATED ARTICLES
FROM A REGULATED AREA AS FOLLOWS:

1. RED INTO OR THROUGH GREEN OR WHITE.
2. GREEN INTO OR THROUGH WHITE.
3. GREEN INTO GREEN.
4. WITHIN GREEN.*

CONSULT YOUR STATE OR FEDERAL PLANT PROTECTION
INSPECTOR OR YOUR COUNTY AGENT FOR ASSISTANCE
REGARDING EXACT ANNUAL ORDER REGULATION AND
REQUIREMENTS FOR MOVING REGULATED ARTICLES.
FOR DETAILED INFORMATION CONSULT 7 CFR 301.52
FOR FEDERAL JURISDICTION AND REGULATIONS.

(See Reverse Side for List of Regulated Articles.)

Revised March 1, 1976

* IF IT IS DETERMINED BY THE INSPECTOR THAT A HAZARD OF SPREAD EXISTS.

FLORIDA

THE FOLLOWING REGULATED ARTICLES REQUIRE A CERTIFICATE OR PERMIT
YEAR-ROUND EXCEPT AS INDICATED:

1. Cotton and wild cotton, including all parts of such plants.
2. Seed cotton.
3. Cottonseed.
4. Cottonseed hulls.
5. Cotton lint.

Baled cotton lint is exempt if compressed to a minimum of 22 pounds per cubic foot.

Baled cotton lint moving from the generally infested area into the suppressive area is exempt if the lint is from seed cotton produced in the suppressive area and moved to the generally infested area for ginning, provided the identity of the baled cotton lint is maintained.

Samples of cotton lint of the usual trade size are exempt. The samples may be assembled in a single package for shipment.

6. Cotton linters.

Linters are exempt if compressed to a minimum of 22 pounds per cubic foot.

Samples of cotton linters of the usual trade size are exempt. Samples may be assembled in a single package for shipment.

7. Cotton waste produced at cotton gins, cottonseed oil mills, and cotton textile mills.

Lint cleaner waste is exempt if compressed to a minimum of 22 pounds per cubic foot.

8. Cotton gin trash.

9. Used bagging and other used wrappers for cotton.

10. Used cotton harvesting equipment and used cotton ginning and cotton oil mill equipment.

11. Okra and kenaf, including all parts of such plants except canned or frozen okra.

Edible okra is exempt if produced during the period December 1 to May 15 inclusive, except that okra consigned to California is exempt only if produced during the period of January 1 to March 15 inclusive.

12. Any other products, articles, or means of conveyance of any character whatsoever, not covered by the above, when it is determined by an inspector that they present a hazard of spread of the pink bollworm and the person in possession thereof has been so notified.

BEANS AND PEAS

INSECTS

BEAN LEAF BEETLE (Cerotoma trifurcata) - ALABAMA - Adults in damaging numbers on beans in gardens in Morgan, Limestone, and Jackson Counties. Controls applied. (Eich et al.).

PEA LEAF WEEVIL (Sitona lineatus) - IDAHO - Damaged green peas in Nez Perce County. (Fisher, Kambitsch).

COLE CROPS

INSECTS

IMPORTED CABBAGEWORM (Pieris rapae) - IDAHO - First adults of season at Moscow, Latah County, April 17. (Barr).

GENERAL VEGETABLES

INSECTS

ASPARAGUS BEETLE (Crioceris asparagi) - PENNSYLVANIA - Adults appeared on asparagus in Centre County. (Gesell). NEW JERSEY - Very heavy in Gloucester County asparagus cutting fields. Several plantings averaged 3 adults per spear. Eggs easy to find. (Ins.-Dis. Newsltr.).

DECIDUOUS FRUITS AND NUTS

DISEASES

APPLE SCAB (Venturia inaequalis) - WEST VIRGINIA - Condition of ascospores on commercial apples in Berkeley County April 7: Discharged about 5 percent during past 2 wetting periods; colored, mature, and ready for discharge next prolonged wetting period 15-20 percent; colorless and immature with remaining spores ready for discharge 7 percent. (Albert). CONNECTICUT - Light rainfall at Storrs and excessively high temperatures accelerated spore development. Large numbers will discharge next significant rainfall. (Schroeder). NEW YORK - Ascospore differential counts on McIntosh apple leaves at Geneva, Ontario County, April 15: No spore formation 18 percent, spores in early stages of formation 22 percent, spores formed but not colored 26 percent, spores formed and colored 30 percent, spores discharged 4 percent. Average of 22 ascospores per low-power microscopic field found in one-hour test. (Szkolnik).

INSECTS

EASTERN TENT CATERPILLAR (Malacosoma americanum) - NEBRASKA - Larvae active throughout eastern third of State, particularly on wild plum. (Witkowski et al.). OHIO - Larvae in southeast area 0.5-1 inch long with most tents 4-8 inches long. Larvae 0.25 inch long with tents 2-4 inches long in Carroll County. Tents uncommon with densities similar to 1975. Cuyahoga County, northernmost report of tents so far. (Nielsen et al.). WEST VIRGINIA - Two full-size tents per wild cherry tree in Mason County. (Tustin). PENNSYLVANIA - Half-inch larvae and 6-inch tents on crab apple trees in Bucks County. Tents on wild cherry in northern Berks and

Centre Counties. Larvae on cherry trees in Susquehanna County. (Simons, Shetlar). NEW HAMPSHIRE - First tents of Malacosoma americanum appeared in extreme southern area April 18. Small tents now on many tree species throughout southern third of State. (Burger).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - MICHIGAN - First detected in southwestern area April 6 in Berrien and Allegan Counties. (Howitt, Shane). NEW YORK - Relatively heavy in all areas of Hudson Valley. (Brann et al.). NEW HAMPSHIRE - First adults April 11 in pheromone traps at Durham, Strafford County. (Turmel).

A GRACILLARIID MOTH (Lithocolletis blancardella) - MICHIGAN - First adults April 14 at Saugatuck, Allegan County. (Brunner, Schwallier).

PEAR PSYLLA (Psylla pyricola) - NEW YORK - Hatch began in southern Ulster County. (Smith).

GREEN PEACH APHID (Myzus persicae) - UTAH - Heavy leaf curl in Washington County peach orchards. (Huber).

ROSY APPLE APHID (Dysaphis plantaginea) - MARYLAND - Eggs hatched April 13 in Washington and Frederick Counties. Generally very light where dormant oil sprays applied. Heavy on several untreated apple orchards (80 acres) week ending April 16. (U. Md., Ent. Dept.).

PECAN NUT CASEBEARER (Acrobasis nuxvorella) - NEW MEXICO - Emergence of larvae continued for third week. Much activity at Carlsbad, Eddy County. (NM Coop. Rpt.).

ORNAMENTALS

INSECTS

NATIVE HOLLY LEAFMINER (Phytomyza ilicicola) - MARYLAND - About 50-70 percent of adults emerged from holly in central area. Egg laying to be heavy in several areas. (U. Md., Ent. Dept.). PENNSYLVANIA - Pupae on American holly in Chester County. About 35 percent damage on 40 bushes. (Lancaster).

ACUMINATE SCALE (Kilifia acuminata) - FLORIDA - All stages moderately infested 5 of 20 plants examined of Gerbera jamesonii (Transvaal daisy) in nursery at Tampa, Hillsborough County. Collected by C.W. Hale, April 13, 1976. Determined by G.W. Dekle. This is a new county record. (FL Coop. Sur.).

FLORIDA RED SCALE (Chrysomphalus aonidum) - FLORIDA - All stages moderately infested 5 of 20 Gerbera jamesonii (Transvaal daisy) in nursery at Tampa, Hillsborough County. Collected by C.W. Hale, April 13, 1976. Determined by G.W. Dekle. This is a new county record. (FL Coop. Sur.).

FOREST AND SHADE TREES

INSECTS

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - NEBRASKA - Damage common on pines in Hayes, Thomas, Grant, Hooker, and Blaine Counties. (Campbell).

WHITE PINE WEEVIL (Pissodes strobi) - NEW HAMPSHIRE - Damage moderate to heavy to white pines in residential areas of Durham, Strafford County. (Turmel).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - NEW YORK - Eggs began hatch in central area. First-instar larvae on mugho pine. (Johnson).

A SOFT SCALE (Toumeyella pini) - INDIANA - Collected from red pine in Marion County by V.R. Knapp in April 1976. Determined by D.L. Schuder. This is a new State record. (Clark).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - OHIO - Overwintered eggs began hatch, crawlers noted in Wayne County on April 22, about 3 weeks earlier than in 1975. (Terrell, Nielsen).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEW MEXICO - Egg laying and young larvae in Dona Ana and Eddy Counties. (NM Coop. Rpt.). IDAHO - First feeding of season on adventitious growth from roots of American elm at Parma, Canyon County. (Scott).

COTTONWOOD LEAF BEETLES (Chrysomela scripta complex) - ALABAMA - Larvae and adults light to heavy in north area on willows along highways, in parks, and along streams. (McQueen).

FALL CANKERWORM (Alsophila pometaria) - PENNSYLVANIA - Eggs hatched and larvae becoming numerous on oak trees in Lebanon County. Some larvae feeding. (Quimby).

BIRCH LEAFMINER (Fenusa pusilla) - PENNSYLVANIA - Many adults on ornamental gray birch in Bucks County. Female adults probing. (Simons).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - TEXAS - Up to 75 per head on untreated animals in Hill, Bell, and San Saba Counties week ending April 16. (Hoelscher). Currently, some heads treated in southern south-central area. Light to moderate on cattle in San Angelo area. (Cole, Wilson).

MOSQUITOES - UTAH - Anopheles freeborni troublesome for 6 weeks at Santa Clara, Bloomington, and Washington Fields, Washington County, April 13. (Roberts, Hanson). WISCONSIN - Biting began in several scattered localities as far north as Marathon and Langlade Counties. Larvae very heavy in Langlade County. High populations expected next 14 days near sites with spring flooding. (WI Pest Sur.). NEW HAMPSHIRE - Anopheles punctipennis and A. quadrimaculatus biting in and around houses at Durham, Dover, and Lee, Strafford County. Activity probably triggered by abnormally warm weather.

Larvae of Aedes implicatus, A. sticticus, A. trichurus, A. excrucians, and A. stimulans averaged 3-15 per dip of early third to late fourth instar. No adult emergence. Hot, dry weather dried up several breeding areas. (Burger).

BLACK FLIES - ALABAMA - Simulium sp., probably S. meridionale (turkey gnat), heavy and damaging to chickens in Covington, Escambia, Conecuh, Monroe, and Washington Counties. (Huggins et al.). NEW HAMPSHIRE - Prosimulium fuscum and P. mixtum pupation began April 1 in Strafford County. First adults April 11, about 10 days earlier than usual. Buzzing overhead reported April 13. P. fuscum and P. mixtum continued to emerge until April 19. Swarms of males and females in moist areas near breeding sites April 18. First eggs of P. fuscum April 18. First bites by P. mixtum from Exeter, Rockingham County, April 17. Swarms of P. mixtum dispersed from breeding sites by April 21. Pupation by P. magnum half completed. First males of P. magnum emerged April 21. Abnormally hot weather throughout southern area past 10 days accelerated pupation, emergence, and swarming of adults. (Burger)

AMERICAN DOG TICK (Dermacentor variabilis) - MARYLAND - First collections of season in Prince Georges and Montgomery Counties week of April 16. (U. Md., Ent. Dept.).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ICHNEUMONID WASP (Bathyplectes curculionis) - WEST VIRGINIA - First 4 adults of season collected in 25 sweeps of alfalfa in Jackson County April 21. (Hacker).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - KENTUCKY - Eggs per square foot by county: Shelby 0.36 and Jefferson 1.15. All oats in seedling or early tillering stages. (Sperka). VIRGINIA - Adults active in Pulaski County April 20, about one adult per 20 sweeps of barley. (Allen). WEST VIRGINIA - Adults averaged 5 per 100 sweeps of oats in Mason County. Egg averages per square foot of oats by county: Mason 3 and Monroe 40 in one field and 6 in another field. (Tustin, Fulk). MARYLAND - First eggs of season on spring oats in Washington, Frederick, and Allegany Counties. Eggs 3-25 per square foot. No larvae to date. (U. Md., Ent. Dept.). PENNSYLVANIA - Adults 5 per 100 sweeps of 4 to 6-inch wheat in Lawrence County. (Travis). NEW YORK - Adults in active flight south of Ithaca, Tompkins County. (Mellors). OHIO - Adults per 100 sweeps of winter wheat week ending April 16 by county: Coshocton 7.2, Muskingum 5.9, Licking 11, Perry 5. Eggs 2-3 per square foot of oats in Coshocton County insectary. (Prentice). MICHIGAN - Adults moved to winter wheat from overwintering sites week of April 4. (Holmes).

GYPSY MOTH (Lymantria dispar) - MARYLAND - Positive egg masses in survey March 27 to April 9 by county: Harford 2 of 40 sites and Cecil 2 of 34 sites. Some controls will be applied in Baltimore and Cecil Counties to stop spread to adjacent areas. (U. Md., Ent. Dept.). PENNSYLVANIA - Percent of gypsy moth hatch by county:

Berks 50 and 20, Montgomery 20-30, Bucks 20-30, Lehigh 10, Lancaster 35, and Chester 35. Hatch began in Lebanon and Centre Counties. (Proctor et al.).

MORMON CRICKET (Anabrus simplex) - UTAH - Control program launched on 3,300 acres in Dinosaur National Monument area of Uintah County, using Nosema locustae (a protozoa) bait. (Knowlton).

SCREWORM (Cochliomyia hominivorax) - Total of 88 cases reported from continental U.S. April 11-17 as follows: TEXAS 87; ARIZONA 1. Total of 223 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 167 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 86,417,900 as follows: Texas 86,237,900; Arizona 180,000. Total of 26,176,500 sterile flies released within Barrier of Mexico. (Vet. Serv.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Control treatment completed in 2 of 3 infested counties. Spray continued in Napa County where weather interfered with applications. Broodwood survey completed in all counties. First brood just emerging. Noticeable decline in beetles trapped in treated areas. (CA Coop. Rpt.).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Larvae destroyed small corn prior to emergence in 10-acre field in Barbour County. Field replanted. Larvae damaged young corn in 93-acre field in Houston County. Light damage in few fields in Chilton County. (Young et al.). GEORGIA - Destroyed tobacco stands in Lanier, Tift, and Thomas Counties week ending April 16. (Strickland et al.). Larvae severely reduced stands in some replanted cornfields in Brooks, Terrell, and Thomas Counties. (Carr et al.). Larvae in untreated vegetable fields throughout southern area. (Barry).

DETECTION

NEW STATE RECORD

INSECTS

A SOFT SCALE (Toumeyella pini) - INDIANA - Marion County. (p. 191).

NEW COUNTY RECORDS

INSECTS

ACUMINATE SCALE (Kilifia acuminata) - FLORIDA - Hillsborough (p. 190).

FLORIDA RED SCALE (Chrysomphalus aonidum) - FLORIDA - Hillsborough (p. 190).

LIGHT TRAP COLLECTIONS

State	Locality	Date	Temperature (°F)	Specimen Condition	Type of Trap	Number of Specimens	Notes
FLORIDA	Alachua 4/13, 14, 16-18	4/16-22		BL	2		
	Gainesville	4/16-22		BL			
INDIANA	(Counties)			BL	7	14	
	Lawrence	4/9-15		BL	1	5	
	Vanderburgh	4/9-15					
MICHIGAN	(County)			BL			
	Lenawee	4/6-12					
MISSISSIPPI	Stoneville	4/16-22	51-86	0.52	2BL	31	5
MISSOURI	Burgess	4/17-22		BL	8		
OHIO	Wooster	4/17-23		3BL	29		
PENNSYLVANIA	(Districts)						
	Central	4/15-21		BL	6		
	North West	4/15-21		BL	15		
WEST VIRGINIA	Harrison	4/18		BL	5		
	Raleigh	4/19		BL	6	3	
WISCONSIN	Lancaster	4/13-20		BL	4		
	Mazomanie	4/16-20		BL			

WEATHER OF THE WEEK ENDING APRIL 25

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Thunderstorms that hammered across the central United States spawned damaging tornadoes and hail from the central Plains, through the middle Mississippi and lower Great Lakes regions. Precipitation skirted the southern Plateau region and focused on the eastern two-thirds of the Nation. Weekly temperatures averaged near normal except in the Northeast, where a 6-day heat wave pushed average readings up to 15 degrees above normal along the Middle Atlantic Coast.

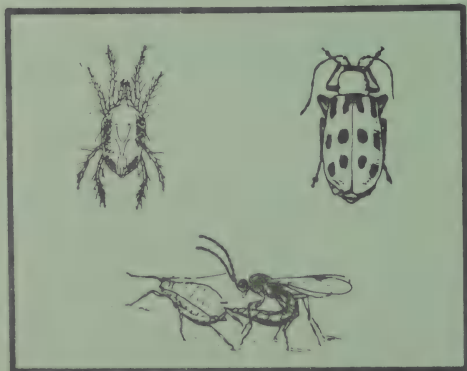
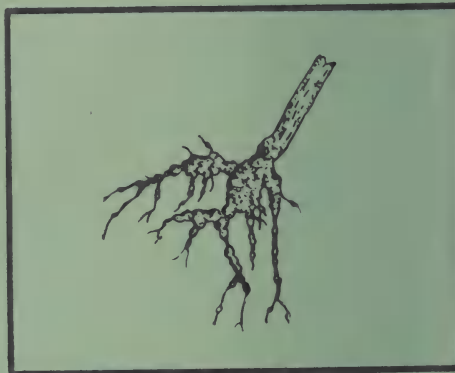
TEMPERATURE AND PRECIPITATION: Monday marked the fifth day of a record breaking heat wave in the Northeast. Providence, Rhode Island, outdistanced the rest of the Nation with a record high of 98 degrees, followed by Hartford, Connecticut, second with 96 degrees. Heavy morning rains in north-central Texas were the harbinger of severe daytime weather throughout the southern Plains. Thunderstorms that hammered across the Plains and much of the Mississippi Valley gave rise to more than 30 tornadoes and considerable hail mostly in Texas and Oklahoma. Target of the most destructive storm, Brownwood in central Texas reported 10 injuries and extensive damage. Locally heavy rains pushed streams over their banks across a wide area of the south-central United States. Monday's precipitation pattern tracked scattered showers and thundershowers from northern New Mexico through eastern Colorado and in parts of South Dakota and western Oregon. On Tuesday morning, thunderstorms moved off the Texas coast but continued from southwest Louisiana through eastern Arkansas and Missouri. Local flooding testified to heavy rains especially in southern Texas, Iowa, and northwest Missouri. At the same time forecasters kept tabs on major flooding that continued on North Dakota's Souris River. A frontal system trudged across the Mississippi Valley carrying showers and thundershowers that spilled into western portions of the Ohio Valley and Great Lakes regions. Severe weather spelled trouble for some areas. A tornado that ripped across northwest Louisiana caused one death, 30 injuries, and extensive damage. Tuesday's mercury once again shot past previous record highs; readings in the 80's and 90's dominated coastal areas. At midday sunny skies brightened much of the Atlantic Plains and the southern half of the Rockies westward into most of California. Midweek weather survey highlighted severe thunderstorms in the Ohio Valley region. Seven tornadoes leveled their guns against areas that included Michigan, Ohio, Pennsylvania, and West Virginia. In the late afternoon, an expansive band of thundershowers stretched from southern Florida northward into lower Great Lakes region. A few thunderstorms and showers dotted the central and northern Plains. Soon after the violent weather outbreak, storm activity weakened. A late evening check showed scattered showers and thundershowers from the Great Lakes to the southern Atlantic Coast States. Though temperatures cooled somewhat in the East, readings in the 80's still warmed portions of Pennsylvania and New York. Thursday thunderstorms slowly migrated towards the Atlantic. The noontime precipitation pattern traced thundershowers along the coast from North Carolina northward into New England. Daytime temperatures measured 60 degrees or higher in the southern two-thirds of the Nation with some Rocky Mountain readings in the low 30's. Late afternoon thunder broke the stillness in the Great

Plains, as storms began building from southwest Texas into southeast Michigan. Tornadoes accompanied isolated severe storm activity in the central and southern Plains and parts of the Atlantic coast and Great Lakes region. From Texas to Canada and east into the Great Lakes and Ohio Valley regions, widespread severe thunderstorms swept across the central United States on Friday. As lines of thunderstorms swept across the area, tornadoes touched down on portions of Iowa, Kansas, Nebraska, and Texas. In Buckley, Illinois, winds damaged several homes and caused some injuries. Sunny skies over much of the east coast and Southeast pulled temperatures into the 80's as far north as Virginia. Readings in the 70's dominated southern New England. Though much severe weather subsided over the weekend, locally heavy rains continued across the eastern third of the Nation. One day's rainfall amounted to almost 5 inches in parts of Iowa, Illinois, and Missouri. Streams throughout the central United States continued to rise as storms thundered across already saturated ground. Winter staged a brief comeback in much of the Nation. In Illinois, some Chicago suburbs accumulated several inches of snow. At the end of day, forecasters cited rain and snow over northern and central sections of the Rockies and intermountain regions. Showers and thunderstorms were scattered over much of the Atlantic coast and into the Ohio Valley where some drizzle and rain were also reported.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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Cooperative PLANT PEST REPORT



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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
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U.S. Department of Agriculture
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Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ARMYWORM larvae 3-6 per square foot in east-central area of Arkansas. Adults heavy in Maryland. (p. 199).

ASTER LEAFHOPPER 20 per 100 sweeps in southeast corner of Wisconsin. (p. 199).

ALFALFA WEEVIL damaged nearly all alfalfa tips in southern Iowa and economic in most of Illinois. Damage peaked in northwest Maryland. (pp. 201-202).

Detection

For new county records, see page 209.

Some First Appearances of the Season

ARMYWORM and CORN EARWORM adults in Oklahoma. CORN FLEA BEETLE in Maryland. HICKORY SHUCKWORM, PECAN NUT CASEBEARER, and FALL WEBWORM in Oklahoma. FALL CANKERWORM in Wisconsin.

Reports in this issue are for the week ending April 30 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMYWORM (Pseudaletia unipuncta) - KANSAS - Some gravid females in blacklight trap at Rossville, Shawnee County. (Bell). OKLAHOMA - First adults at lights near Stillwater, Payne County. (OK Coop. Sur.). ARKANSAS - Common in east-central and northeast areas. Larvae 3-6 per square foot, one location 18 larvae per square foot, in St. Francis County. (Boyer). MISSISSIPPI - Larvae fed on wheat, noneconomic, in Washington, Sharkey, Quitman, and Tunica Counties and on ryegrass in Hinds County. (Mitchell). MARYLAND - Adults active earlier than usual due to mild temperatures during mid-April. Ranged 40-120 per night, potential to cause outbreak similar to 1974. First significant injury expected May 11-19 on Eastern Shore and May 30 in Kent and Cecil Counties. (U. Md., Ent. Dept.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - FLORIDA - Adults 2 per 100 sweeps of ripe oats at Gainesville, Alachua County. (FL Coop. Sur.). WISCONSIN - High counts of 20 leafhoppers per 100 sweeps in Kenosha County small grain field. Mostly ranged 2-6 per 100 sweeps of winter grains, spring oats, and alfalfa throughout southern half of State. (WI Pest Sur.).

CORN EARWORM (Heliothis zea) - OKLAHOMA - First adults of season in light trap in Payne County. (OK Coop. Sur.).

GREENBUG (Schizaphis graminum) - ARKANSAS - On seedling sorghum in Greene and Lawrence Counties. Highest counts ranged 5-10 per 2-inch sorghum plant in Greene County; controls applied to some fields. (Boyer). KANSAS - Averaged 0.3-3.2 per plant on seedling sorghum, 2-4 leaf stage, in Wilson County, and 0.2-1.2 per plant on 2-leaf sorghum in Montgomery County; alates present. (Bell).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Averaged 50 per sweep in 7-inch alfalfa in Franklin County; 10 per sweep in 11-inch alfalfa in Miami County. (Bell). WISCONSIN - Up to 8 per 100 sweeps of alfalfa in west-central areas. (WI Pest Sur.).

CORN, SORGHUM, SUGARCANE

DISEASES

SPECKLED LEAF BLOTCH (Septoria tritici) - NEBRASKA - Appeared on lower wheat leaves in some southeast and south-central counties; rapid buildup possible. (Watkins et al.).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Adult flights declined due to cool nights; pupation 80-90 percent statewide. Peak egg laying expected on field corn by first brood around May 12, 10-14 days earlier than last year's peak period. (U. Md., Ent. Dept.). WISCONSIN - Winter survival of 100 percent in Dodge and Green Lake Counties at 2 sites; no pupae. (WI Pest Sur.). NORTH DAKOTA - Winter survival in untilled corn averaged 75 percent, down 3 percent from last year. Percent survival by county: Cass 67, Dickey 60, Ransom 72, Richland 78, and Sargent 85. (Scholl).

BLACK CUTWORM (Agrotis ipsilon) - NORTH CAROLINA - Damage by third to fifth-instar larvae in Washington County heavy on about 550 acres of 3 to 6-inch corn. Stand loss totaled 20 acres in two 200-acre blocks, 5 percent in 150-acre field in this area and 5-15 percent in 3 Cumberland County fields and one Pender County field. (Van Duyn et al.).

A WEEVIL (Sphenophorus callosus) - NORTH CAROLINA - Adult damage severe in many southern Coastal Plain fields. Stand reduction of 25 percent in border rows common in Duplin, Sampson, Bladen, and Cumberland Counties. (Van Duyn, Hunt).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - WISCONSIN - Collected on corn at Oconto Falls, Oconto County, by J.A. Adams, August 8, 1975. Determined by R. White. This is a new county record. (WI Pest Sur.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - KANSAS - Averaged 1.5 per plant on 2-leaf corn in Jefferson County. (Bell). INDIANA - Averaged 6 per stalk on 2 to 4-leaf grain corn in Bartholomew County. (Meyer). MARYLAND - First adults of season on corn in Wicomico, Caroline, and Kent Counties. Ranged 1-6 per 10 row feet; damage very light. (U. Md., Ent. Dept.).

SUGARCANE BEETLE (Euethola rugiceps) - NORTH CAROLINA - Adults damaged one percent of corn in two 6-acre fields south of Fayetteville, Cumberland County. (Hunt).

SMALL GRAINS

DISEASES

POWDERY MILDEW OF WHEAT (Erysiphe graminis var. tritici) - KANSAS - Approximate percent of infected wheat plants by county: Franklin 90 (heavy), Anderson 80 (heavy), Miami trace, Woodson 10-90 (light to heavy), Montgomery 40-50 (moderate), and Neosho 20-70 (light to moderate). (Sim).

WHEAT SPINDLE STREAK MOSAIC - MICHIGAN - Late winter discolorations of winter wheat within 50-mile radius of east Lansing, Ingham County, week of April 23; Genesee and Ionia Counties heaviest. (Smith).

BARLEY YELLOW DWARF VIRUS - KANSAS - Approximate percent of infected oat plants by county: Montgomery 5, Wilson 5, Neosho 5, and Labette 2-3. Approximate percent of infected wheat plants by county: Anderson 5, Franklin trace, Miami trace, Woodson trace to 10, Wilson trace to 50, Montgomery trace to 40, Chautauqua 5, Elk trace to 20, Neosho trace to 30, and Labette 2-40. (Sim).

INSECTS

GREAT BASIN WIREWORM (Ctenicera pruininia) - IDAHO - Heavy damage to wheat near Tammany, Nez Perce County. (Kambitsch).

PLAIN FALSE WIREWORM (Eleodes opacus) - MONTANA - Heavy on winter wheat near Ekalaka, Carter County. Damage extensive. (Jensen).

ENGLISH GRAIN APHID (*Macrosiphum avenae*) - WISCONSIN - Ranged 0-15 per 100 sweeps of small grain in southern half of State. Winged adults and nymphs in early planted oats. (WI Pest Sur.).

TURF, PASTURES, RANGELAND

INSECTS

RANGE CATERPILLAR (*Hemileuca oliviae*) - NEW MEXICO - Eggs hatched southeast of Clayton, Union County. (NM Coop. Rpt.).

FORAGE LEGUMES

DISEASES

SPRING BLACK STEM (*Phoma medicaginis*) - KANSAS - Approximate percent of light to moderately infested alfalfa plants by county: Pottawatomie 80, Jefferson 10, Clay 90, Cloud 100, Republic 60, and Jewell 80. (Sim).

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - CALIFORNIA - This species and *H. brunneipennis* (Egyptian alfalfa weevil) in St. Helena, Napa County, larvae 6-8 per sweep of alfalfa at Palo Cedro, Shasta County. (CA Coop. Rpt.). UTAH - Alfalfa weevil moderate in Washington County alfalfa. NEW MEXICO - Larvae averaged 2 per sweep near Socorro, Socorro County, a 30-mile range extension. (NM Coop. Rpt.).

OKLAHOMA - Alfalfa weevil infested all untreated alfalfa tips in Tulsa County and 20-60 percent in Pawnee County week ending April 23. Larval counts by county: Woodward moderate to heavy; Bryan moderate; Stephens, Grady, and Payne light with pupae and adults increasing Grady 5-10 adults per sweep; Payne averaged 5 adults per sweep. Currently, controls applied to most alfalfa in Texas County. Larvae on 70-100 percent of alfalfa terminals in Logan County. (OK Coop. Sur.). KANSAS - Damage to alfalfa by area: North-central light to moderate, west light, Ellis County light, Ellsworth County moderate to heavy in 6-inch untreated alfalfa, McPherson heavy in 11-inch untreated alfalfa with average of 6.5 larvae per stem. (Bell).

ARKANSAS - Alfalfa weevil larvae 400-500 per 100 sweeps of forage near Fayetteville, Washington County. (Boyer). MISSOURI - Larval averages per forage tip by area: Northeast 3.6, northwest 3.3, and north-central 2. *Cantharis bilineatus* (a cantharid beetle) adults 5-10 per sweep in north-central area. (Huggans). IOWA - Severe damage to alfalfa in southern counties despite cold, wet weather. Percent of larvae by instar in Lee and Van Buren Counties: First 35, second 22, third 16, and fourth 27. Controls required in southern tier of counties. Tip damage nearly 100 percent in most fields. Eggs averaged 59 per square foot in Lee County. Larvae 0.6-2.5 (averaged 1.3) per stem in Lee and Van Buren Counties, and 0.12-1.0 (averaged 0.67) per stem in Henry County. Damage increase expected in all counties. (DeWitt).

ILLINOIS - Alfalfa weevil economic as far north as line approximating National Interstate Highway 74, egg laying in southern third of State declined, populations probably peaked. (IL Ins. Rpt.). INDIANA - Controls needed in southern areas. (Meyer). OHIO - Cool weather slowed weevil growth and feeding activity. At or near economic levels in southern two-thirds of State; untreated fields nearly defoliated. Much variation in west-central counties. Larvae per 100 sweeps (and percent feeding damage) by county: Wood 22 (trace) and 67 (5), Henry 55 (5), Putnam 112 (5), Hancock 10 (trace), Auglaize 145 (65) and 320 (40), Mercer 30 (trace) and 195 (30), Shelby 530 (75), Darke 374 (60), Miami 486 (65), Clark 207 (25), and Wayne 244 (10). (Lewis).

MINNESOTA - Alfalfa weevil adults averaged 3 per 100 sweeps in some 3 to 5-inch alfalfa in Dakota County. (MN Pest Rpt.). WISCONSIN - Adults and larvae on alfalfa in south-central, south, and west-central districts. Larvae ranged 8 per 100 sweeps in Jefferson County to one per 100 sweeps in Grant, Green Lake, Columbia, and Fond du Lac Counties. (WI Pest Sur.). MICHIGAN - Larvae 300-325 per 20 sweeps of 6 to 10-inch alfalfa in southern Cass County April 22. (Ruppel et al.).

KENTUCKY - Third or fourth-instar larvae of alfalfa weevil per 30 alfalfa stems: 3 in fields sprayed with long residual insecticides in Larue County and 14-99 in fields sprayed with short residuals. Adults feeding on leaves. (Christensen). VIRGINIA - Infested 42 percent of tips in 9 forage fields (57 acres) in Botetourt, Culpeper, Montgomery, Washington, and Wythe Counties. Average estimated defoliation 14.4 percent. Damage serious in most fields. Two fields (29 percent) exceed recommended treatment threshold. Larvae averaged one-eighth inch. (Allen). WEST VIRGINIA - Larvae averaged 8.09 per sweep with 56 percent tip infestation and 3.10 per sweep with 44 percent tip infestation at 2 sites in Preston County. (Weaver). Larvae infested 20 percent of tips with less than 5 percent defoliation in Pendleton County and 14 percent of tips with less than 5 percent defoliation in Pocahontas County. (Hacker). MARYLAND - Heavy injury peaked in Washington, Frederick, and Montgomery Counties, controls applied to additional 1,200 acres. Adults development 7-14 days earlier than in 1974, pupated on Eastern Shore, will start in central area next 7 days, and will peak in 6-10 days. (U. Md., Ent. Dept.).

CLOVER LEAF WEEVIL (*Hypera punctata*) - WISCONSIN - One larva per 50 sweeps in Buffalo and Iowa County alfalfa field. (WI Pest Sur.). INDIANA - Larvae of this species and *H. nigrirostris* (lesser clover leaf weevil) heavily damaged clover in 3 fields in Washington County. (Edwards).

CLOVER ROOT BORER (*Hylastinus obscurus*) - OREGON - First adults on white stickyboard traps in red clover April 27 near Cornelius, Washington County. (Leffel et al.).

BLUE ALFALFA APHID (*Acyrtosiphon kondoi*) - UTAH - Moderate to severe on Washington County alfalfa; controls applied to 1,300 acres. (Huber). NEVADA - This species and *A. pisum* (pea aphid) averaged 2-10 per sweep of hay alfalfa in central and southern areas to 150 per sweep in northern area, Moapa Valley, Clark County. Ranged 5-10 per sweep in lightly infested fields to 500+

per sweep in heavily infested hay alfalfa fields in Virgin Valley, Clark County; 4-20 per sweep (light) to 300 per sweep (heavy) of alfalfa in Pahrump Valley, Nye County. Mostly alates. (Bechtel et al.). CALIFORNIA - Acyrtosiphon kondoi heavier than usual in Fresno County, 5 A. kondoi to one A. pisum. Moderate to heavy in Imperial County. (CA Coop. Rpt.).

PEA APHID (Acyrtosiphon pisum) - WISCONSIN - Adults and nymphs on alfalfa in southern half of State. Averaged 9 per 100 sweeps. Parasitism 25-75 percent. (WI Pest Sur.).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - Up to 3 adults per sweep in 2 forage fields in Centre County April 29. 29. Pinhole damage on most plants. (Shetlar).

POTATOES, TOMATOES, PEPPERS

INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - OKLAHOMA - Larvae and adults heavy on garden potatoes in Payne County. Averaged 2 per plant in Muskogee County. (OK Coop. Sur.). TENNESSEE - Heavy on untreated potatoes in western areas. (Locke).

COLE CROPS

INSECTS

IMPORTED CABBAGEWORM (Pieris rapae) - KANSAS - Small larvae trace on collard seedlings in commercial planting in Johnson County. Half-grown larvae heavy on garden cabbage in Montgomery County. Light on garden cabbage in Douglas County. (Bell).

DIAMONDBACK MOTH (Plutella xylostella) - KANSAS - Larvae on 3 percent of collard seedlings in commercial planting in Johnson County. (Bell).

GENERAL VEGETABLES

INSECTS

ASPARAGUS BEETLE (Crioceris asparagi) - CALIFORNIA - Damage extensive on asparagus; controls required in several counties. (CA Coop. Rpt.). DELAWARE - Adults active, eggs on stalks statewide, on commercial plants and in home gardens. (Burbutis).

DECIDUOUS FRUITS AND NUTS

DISEASES

BACTERIAL LEAF SPOT (Xanthomonas pruni) - TENNESSEE - Shothole stage in some localities on Prunus spp. in Montgomery, Cheatham, Davidson, and Wilson Counties week of April 23. (Sauve, Kelly).

APPLE SCAB (Venturia inaequalis) - MISSOURI - Potential still high in most apple areas; lesions should be evident soon. (Wkly. Rpt. Fr. Grs.). CONNECTICUT - Infectious conditions during wet April 24-25. (Schroeder).

PEACH LEAF CURL (Taphrina deformans) - MISSOURI - In many unsprayed and/or poorly sprayed peach orchards in southeast and south-central areas. (Wkly. Rpt. Fr. Grs.).

CEDAR-APPLE RUST (Gymnosporangium juniperi-virginianae) - MISSOURI - Galls in all areas except northwest. Early lesions in southeast area. (Wkly. Rpt. Fr. Grs.). CONNECTICUT - Spore horns out statewide. (Schroeder).

INSECTS

GREEN FRUITWORM (Lithophane antennata) - MICHIGAN - Adults peaked April 19-21 at Fennville, Allegan County; no larvae yet. Half-grown larvae fed on semi-abandoned apple block at Grand Rapids, Kent County, and near Paw Paw, Van Buren County. (Brunner).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MISSOURI - Adults declined in pheromone traps at Mountain Grove, Wright County. Flagging of tender peach terminals due to egg laying in several orchards in bootheel area. Catfacing light to moderate in many sprayed orchards. (Wkly. Rpt. Fr. Grs.). OKLAHOMA - Larvae moderate in branch tips of peach trees in Tulsa County. (OK Coop. Sur.).

CODLING MOTH (Laspeyresia pomonella) - PENNSYLVANIA - Adults in pheromone traps in south-central areas a month earlier than usual. (Tetrault).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - RHODE ISLAND - First egg hatch April 4. (Gardner). Tents present. (Stelle et al.). NEW HAMPSHIRE - Hatched. Tents on wild cherry. (Bowman). MAINE - Larvae active statewide. (Gall).

WESTERN TENT CATERPILLAR (Malacosoma californicum) - OREGON - Tents 1-5 per tree through Portland, Metropolitan area, Multnomah County, on apple, cherry, crab apple, and other flowering trees. (Collier). First or second-instar larvae active in filbert orchard in Dundee, Washington County. (Brown).

A GRACILLARIID MOTH (Lithocolletis blancardella) - MICHIGAN - Many overwintered adults in stickyboard traps at Grand Rapids, Kent County, April 17. Eggs should hatch shortly. (Brunner, Schwallier).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - PENNSYLVANIA - Adults in pheromone traps in central areas, highest catch 228. (Tetrault).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - MASSACHUSETTS - First appearance at Belchertown, Hampshire County. (Prokopy).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - First adults of season in light traps in pecan orchard in Payne County April 13. (OK Coop. Sur.). GEORGIA - Very heavy, up to 200 adults per trap per night, in Peach County week ending April 23. (Gentry).

PECAN NUT CASEBEARER (Acrobasis nuxvorella) - OKLAHOMA - First report of season. Overwintered larvae heavy in pecan terminals in Comanche County week ending April 23. (OK Coop. Sur.).

EUROPEAN RED MITE (Panonychus ulmi) - MICHIGAN - Eggs about 80 percent hatched in Berrien and Van Buren Counties April 21. Heavy, 10-20 per leaf, in some blocks due to lack of prebloom treatments because of very short time between green tip and bloom. (Brunner). MASSACHUSETTS - Eggs hatched. (Prokopy).

SMALL FRUITS

INSECTS

GRAPE FLEA BEETLE (Altica chalybea) - ALABAMA - Larvae on grape foliage in Escambia, Elmore, and Winston Counties. (Knowles et al.). NORTH CAROLINA - Larvae defoliated 50+ percent of grape plantings in Pender and New Hanover Counties. Present in Johnston County planting. (Cumbo, Weaver). OHIO - Adults active in Miami County April 20. (Geedde). PENNSYLVANIA - Adults on Concord grape near Emporium, Cameron County, April 20. (Keniston).

WESTERN TENT CATERPILLAR (Malacosoma californicum) - OREGON - First-instar larvae averaged 6 per 25 gooseberry bushes; one tent per bush in 15-acre field near Cornelius, Washington County. (Collins).

ORNAMENTALS

DISEASES

POWDERY MILDEW OF ROSES (Sphaerotheca pannosa) - TENNESSEE - Infected foliage of garden roses in Davidson County week of April 23. (Sauve, Kelly).

BLACK SPOT OF ROSES (Diplocarpon rosae) - TENNESSEE - Heavy on roses in certain areas of Davidson County week of April 23. (Sauve, Kelly).

INSECTS

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - First of season. Small larvae on juniper and Quercus macrocarpa (bur oak) in Stillwater, Payne County, April 21. (OK Coop. Sur.).

AN ARMORED SCALE (Diaspis carueli) - WASHINGTON - Heavy on juniper in city parks at Moses Lake, Grant County, April 26. (Antonelli).

AZALEA LACE BUG (Stephanitis pyrioides) - FLORIDA - Nymphs and adults on 30 percent of 450 Rhododendron indicum (azalea) in nursery and on 80 percent of 6,100 R. indicum in another nursery near Lake Cain, Orange County. (FL Coop. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - TENNESSEE - Severely defoliated privet plants at Belmont area of Nashville, Davidson County, week of April 23. (Sauve, Kelly). Damaged ornamentals statewide. (Gordon).

SLUGS AND SNAILS

A SLUG (Arion ater) - OREGON - Mostly this species heavy on various ornamental and garden plants in Croisan Gulch area of Salem, Marion County. Controls not effective. (Westcott).

FOREST AND SHADE TREES

DISEASES

FUSIFORM RUST (Cronartium fusiforme) - MISSISSIPPI - Fruiting stages on Oktibbeha County pines week ending April 23. Also infected oaks, an alternate host. (MacGown).

PINE NEEDLE RUST (Coleosporium spp.) - MISSISSIPPI - Up to 100 percent infection on many Pinus taeda (loblolly pine) seedlings locally in Oktibbeha County week ending April 23. (MacGown).

INSECTS

PINE SPITTLEBUG (Aphrophora parallela) - TENNESSEE - Light to moderate on Virginia and loblolly pines at several locations in central area. Controls needed. (Gordon).

COOLEY SPRUCE GALL APHID (Adelges cooleyi) - OHIO - Overwintered females of this species and A. abietis (eastern spruce gall aphid) active in northeastern areas. (Balderston).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - INDIANA - Larvae numerous, 2-3 weeks early in northern two-thirds of State. (Clark, Schuder).

FALL CANKERWORM (Alsophila pometaria) - WISCONSIN - First hatch in Waukesha County April 19. (WI Pest Sur.). PENNSYLVANIA - Hatched in Potter County April 23. (Houghtaling).

WESTERN TENT CATERPILLAR (Malacosoma americanum) - UTAH - Defoliated cottonwoods along Virgin River in Washington County. (Huber).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - First adult of season in light trap April 13 in Payne County. (OK Coop. Sur.).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEVADA - Eggs on elms in Moapa Valley, Clark County. (Bechtel, Zoller). NEW MEXICO - Adults active in Bernalillo and Valencia Counties. (NM Coop. Rpt.). KANSAS - First eggs of season on Siberian elms in Wilson County. (Bell).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 300 per head on cows, 1,000 per head on bulls in Payne County, and 250 per head on cows in Major County week ending April 23. Moderate to heavy in Comanche County. Current adults averaged 300 per head on cattle in Payne County, ranged 250-400 per head in Major County, and light in Hughes County. (OK Coop. Sur.). MISSISSIPPI - Adults averaged 60+ per head in Oktibbeha and Noxubee Counties week of April 23. (Combs).

FACE FLY (Musca autumnalis) - ALABAMA - Ranged 2-20 per head on cows in Morgan, Limestone, Lauderdale, and several other counties; 2-10 on 10 percent of beef cattle in Lee County in central area. (Eich et al.). MISSISSIPPI - Adults averaged 12 per face on cattle in Oktibbeha and Noxubee Counties week of April 23. (Combs). TENNESSEE - Ranged 0-6 per head, averaged less than one per head. (Gordon). MASSACHUSETTS - Adults 5 per head on cows and horses at Amherst, Hampshire County. (Stoffolano).

MOSQUITOES - NEW HAMPSHIRE - Third or early fourth-instar larvae developed in woodland pools and brackish water marshes in southern areas. Development 10 days ahead of normal. Overwintered adults active and biting. (Bowman).

BLACK FLIES - NORTH DAKOTA - Simulium venustum adults 5-6 per ear annoying horses along Apple Creek, Burleigh County. (Brandvik). MASSACHUSETTS - Adults of various species very abundant and biting fiercely along Farmington and Buck Rivers in Otis and New Boston areas. (Adams). Prosimulium mixtum adults beginning to emerge but most in pupal stage. Peak emergence expected next 14 days. (Stoffolano, Edman). NEW HAMPSHIRE - Warm weather accelerated pupation and adult emergence, 10 days ahead of normal, first adults April 11. S. venustum larvae 14 days ahead of normal. Peak expected in southern areas by end of April. P. fuscum, P. mixtum, and S. vittatum flying. P. magnum and Cnephia mutata pupated in large numbers week ending April 23. (Bowman). P. mixtum abundant southern third of State. Adults of S. venustum first emerged April 23. (Burger).

AMERICAN DOG TICK (Dermacentor variabilis) - MASSACHUSETTS - Averaged less than in 1975 on Cape Cod and Islands, and equal or above average on the South Shore. Light inland and about the same as in 1975. (McEnroe). DELAWARE - Abundant on pets and in homes in most areas. (Burbutis). RHODE ISLAND - First report of season. Worst early infestations in residential areas next to woods. (King).

HOUSEHOLDS AND STRUCTURES

INSECTS

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - RHODE ISLAND - Heaviest swarming statewide in 5 years week of April 23. (Wallace et al.).

CARPENTER BEE (Xylocopa virginica) - TENNESSEE - Damaged wood structures in many areas week of April 23. Heavier than usual. (Gordon).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ICHNEUMONID WASP (Bathyplectes curculionis) - OKLAHOMA - Percent of Hypera postica (alfalfa weevil) larvae parasitized by county by April 23: Woodward 72, Alfalfa 44, Beaver 6, Texas 13, and Cimarron 31. Statewide average of 18.2 percent parasitism, 8.2 percent above 1975. (OK Coop. Sur.).

AN ICHNEUMONID WASP (Lemophagus curtus) - MICHIGAN - One male in emergence trap in Berrien County April 29. (PPQ).

A MYMARID WASP (Anaphes flavipes) - Recovered from Oulema melanopus (cereal leaf beetle) eggs in following States. MARYLAND From Clear Spring April 21 and Fairview April 26 in Washington County. PENNSYLVANIA - From North Woodbury and Huston Townships, Blair County, April 26. (PPQ).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - KENTUCKY - Eggs averaged 0.1-1.6 per linear square foot of oats in Shelby and Jefferson Counties. First-instar larvae in most fields. (Sperka). PENNSYLVANIA - Adults 112 and eggs 573 per 100 sweeps on 3-inch oats in Jackson Township, Perry County, April 24. (Rice). Adults per 100 sweeps in Centre County April 29: 18 on 8-inch wheat in Ferguson Township and 10 on 6-inch oats in College Township. (Shetlar).

GYPSY MOTH (Lymantria dispar) - MARYLAND - Positive egg mass sites to date by county: Harford 18 and Cecil 66 of 400. First larvae of season near Farmington, Cecil County. Infestation expected to be light; but preventive controls will be applied. (U. Md., Ent. Dept.). NEW JERSEY - Larvae on apple foliage at Creamridge, Monmouth County. (Ins.-Dis. Newsltr.). PENNSYLVANIA - Eggs 15-20 percent hatched in Schuylkill County. (Proctor, Raub). Hatch of 10 percent at Palmyra, Pike County, and Dauphin, Wayne County, April 21. (Sporer). Larvae on oaks near Seven Stars, Juniata County, April 22. (Wolfe).

SCREWORM (Cochliomyia hominivorax) - Total of 166 cases from continental U.S. April 18-24 as follows: TEXAS 164, ARIZONA 2. Total of 140 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 132 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 124,665,600 as follows: Texas 212,368,000; Arizona 3,297,600. Total of 47,871,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

General Vegetables - LEAFMINER FLIES (*Liriomyza* spp.) heavy on 75 percent of leaves and all stages of GREENHOUSE WHITEFLY (*Trialeurodes vaporariorum*) moderate on more than 50 percent of leaves on 2 acres of cucumbers and 1.5 acres of watermelon at Waimanalo, Oahu. (Lai, Nakahara). PEPPER WEEVIL (*Anthonomus eugenii*) in more than 90 percent of all ripened chili pepper fruits at Waimanalo. (Nakahara).

DETECTION

NEW COUNTY RECORDS

INSECTS

SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) - WISCONSIN - Oconto (p. 200).

CORRECTIONS

CPPR 1(15):145 - ARMYWORM (*Pseudaletia unipuncta*) ... should be ARMY CUTWORM (*Euxoa auxiliaris*) ...

CPPR 1(16):171 - KANSAS - Garden City ... Delete Spodoptera ornithogalli (yellowstriped armyworm). (Bell).

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

MAY 1976

The National Weather Service's 30-day Outlook for May is for temperatures to average below seasonal normals along the central Pacific coast and in most of the Great Plains and the South except for near to above normal over the Florida Peninsula. Above normal temperatures are indicated for the North Atlantic States, the south Pacific coast and portions of the central and southern Plateau region. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median amount over the north Pacific coast and east of the Continental Divide except for most of the southern Great Plains. Elsewhere less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

LIGHT TRAP COLLECTIONS

	Precipitation	Temperature Fahrenheit	Type of trap	Average number of insects per trap	Other	Remarks
FLORIDA						
Alachua 4/23-29	BL	8	2BL	16		
Gainesville 4/20-29	BL	13	BL	34		
INDIANA (Counties)	BL	9	BL	29		
Lawrence 4/16-22						
Vanderburgh 4/16-22						
KANSAS						
Rossville 4/30	BL	2				
MISSISSIPPI						
Stoneville 4/23-29	2BL	18				
MISSOURI (County)	BL	15				
Platte 4/23-29						
OHIO						
Wooster 4/24-30	3BL	16				
PENNSYLVANIA (Districts)						
Central 4/21-23	BL	2				
North West 4/21-23	BL	3				
WISCONSIN						
Lancaster 4/21-28	BL	1				
Mazomanie 4/21-28	BL	1				

WEATHER OF THE WEEK ENDING MAY 2

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Winter weather focused its return on the central United States, but permitted few areas of the Nation to escape unseasonably cool temperatures. Weekly readings averaging to 12 degrees below normal produced record lows in the middle Mississippi and the Ohio Valleys. In the South, the target of most mid-week precipitation, severe weather erupted in southern Texas. Rains then shifted northeastward reaching into the Mississippi Valley and the Great Lakes region.

TEMPERATURE AND PRECIPITATION: Wintry weekend weather extended its stay throughout the western United States, moving slowly across the Rockies Monday. The intense winter storm threatened young livestock as it sent chilling rains and snow from northeast Colorado through Wyoming into Montana. Cold and rain also spilled into western portions of the Great Plains and South Dakota. Heavier snowfall made news in Pocatello, Idaho, where 4 inches in 6 hours put the city under more than one-half foot of snow, and in Montana where Great Falls measured an extra 3 inches of snow. Near record low temperatures touched the middle Mississippi Valley, crept into the central Plains, and the western Ohio Valley. At daybreak, Joplin, Missouri, measured only 25 degrees and frost iced portions of Arkansas. Daytime readings stalled in the 30's or the low 40's throughout most of the Great Lakes region and New England. In the northeast, snow accompanied frigid air along the Great Lakes region and from the upper Ohio Valley into New England, snowfalls to 4 inches slowed traffic in the Vermont mountains. Tuesday morning, cool air settled over much of the Nation. Record low readings ranged up to 20 degrees below normal in the northeast quarter of the Nation. From the lee side of the central Rockies through portions of Virginia, the mercury stalled in the 40's.

Wintry weather kept a foothold from the upper Mississippi Valley into the central Rockies. Two feet of snow capped some Montana mountain peaks. At day's end, wintry force finally weakened but only after spreading cold and rain across the area. Frost and freezing temperatures gripped areas from the upper Great Lakes region into the middle Atlantic Coast States and the Carolina mountains. Nighttime precipitation patterns traced a broken line of intense thunderstorms from southwest Kansas to southwest Texas. Showers and thundershowers were scattered throughout the east-central Plains and southern portions of the middle Mississippi Valley. Rain mixed with snow over New York streamed into New England. The midweek weather check showed morning spring chill extending from the northern Rockies to the southeast Atlantic coast. Claiming record low readings, Indianapolis, Indiana, measured 28 degrees, Charleston, West Virginia, 29 degrees, and Raleigh, North Carolina, 32 degrees; carrier of the cold, a large high pressure system also kept the east coast and much of the Midwest dry. Afternoon brought the return to weather patterns more typical of late April. Light rain, drizzle, and fog cut a wide path from the northern Rockies through the central Plains, with snow restricted to higher elevations. Many area temperatures pushed into the 50's and 60's, though low clouds and moisture held some afternoon readings in the 40's.

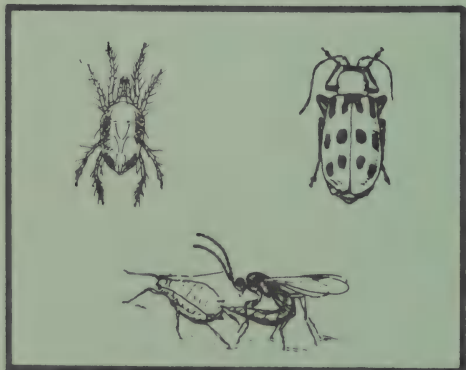
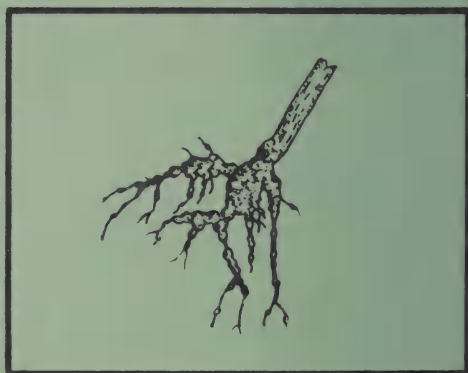
As Thursday's high pressure ~~system~~ dug its heels deeper into the upper Midwest, morning lows skidded into the upper 20's and mid 30's. Texas captured most early morning precipitation. Three twisters that struck the southeast portion of the State just after sunrise caused some damage. In the afternoon, severe weather staged a comeback in south-central Texas and erupted off of Galveston's coast, as well. Heavy thunderstorms drenched portions of southern Texas, where more than 7 inches soaked an area northwest of Brownsville. Copano Bay area clocked wind gusts up to 100 m.p.h. Friday, end of April showers focused mostly on the South. Thunder-showers rumbled across the lower Mississippi Valley through the Carolina coast. Showers were mostly light in the northern Plains and upper Great Lakes region. Heavy rains came just in time to Savannah, Georgia, to add 5 inches of precipitation to its April total, which previously stood at only a trace for the entire month.

Heavy downpours moved into the Northeast on Saturday. Thunder-showers traced the Atlantic coast from southern Florida to Maine, up the Mississippi Valley into the Great Lakes region and parts of the northern Plains. Meantime, topnotch weather favored the Rockies and Far West, thanks to a massive high pressure centered over Colorado which also kept the Pacific cold front stalled off the coast. Cold Canadian air plunging southward brought more cold weather to a large section of the Nation Sunday. Most temperatures plummeted into the upper 20's and low 30's in northern portions of the Rockies, the Plains, and into the central Plains. Two chilly exceptions, Glasgow, Montana, and Williston, North Dakota, registered only 20 degrees. Cool air penetrating southward brought record low readings to Houston, Texas, 45 degrees and Meridian, Mississippi, 44 degrees. Evening frost preyed upon orchards in the central United States as a cold front advanced into the southern portions of the Mississippi Valley and the Plains.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
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Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ARMY CUTWORM damage heavy on alfalfa in some parts of Nevada, Idaho, and Montana. (p. 215).

Controls applied for ALFALFA WEEVIL in Texas, Iowa, and Ohio. (p. 217).

Unusual amount of VEGETABLE WEEVIL damage to tomatoes in parts of South Carolina. (p. 218).

Detection

New State records include BLUE ALFALFA APHID in Kansas and New Mexico. (p. 218).

OLEANDER HAWK MOTH on new host for Hawaii. (p. 223).

For new county records see page 223.

Reports in this issue are for the week ending May 7 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - NEVADA - Ranged from 2 per crown to 3-4 per square yard on hay alfalfa in Diamond Valley, Eureka County. Fields with heavier populations heavily damaged. (Lauderdale). IDAHO - Damage ranged from spots in alfalfa fields to defoliation of 15,000-20,000 acres in Mud Lake and Montevideo areas, Jefferson County. (Gooch, Sandvol). MONTANA - Larvae, 0.5 to 1.25-inch long, 2-15 per square foot of alfalfa on about 3,600 acres near Manhattan, Gallatin County. Damage very severe in some fields; light in others. (Jensen). NEBRASKA - Stand loss of 98 percent in fall-seeded alfalfa field in Hamilton County. Field treated and planted to corn. Third to fifth-instar larvae numerous under scattered debris. Half-inch larvae still common on alfalfa and wheat in panhandle. First adults observed in Clay and Scotts Bluff Counties. (Keith et al.).

ARMYWORM (Pseudaletia unipuncta) - MARYLAND - Adults very light due to cool nights. Some second and third-instar larvae on wheat and barley on Eastern Shore. No significant infestations to date. (U. Md., Ent. Dept.). ARKANSAS - Occasional larva found on wheat surveyed in Greene and Randolph Counties. (Boyer). NEBRASKA - First adults of season in Clay County. (Peters).

ASTER LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Arrived earlier than usual. Averaged 43 per 100 sweeps on rye by April 27 at Becker, Sherburne County, and 40 per 100 sweeps on winter wheat at Waseca, Waseca County. Current numbers dropped, averaged 2-3 per 100 sweeps, apparently due to cold weather. (MN Pest Rpt.). NORTH DAKOTA - Spring migrants 2 per 100 sweeps of rye in Richland County. (Scholl).

CORN EARWORM (Heliothis zea) - FLORIDA - Commercial grower of sweet corn in Alachua County began daily airplane control applications. Corn beginning to silk. (FL Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Began to infest fields in San Patricio, Victoria, and Calhoun Counties week ending April 30. Over 100 per whorl on 8 to 10-inch sorghum in Bell and Falls Counties. Parasitism light. (Rothrock et al.).

GREENBUG (Schizaphis graminum) - TEXAS - Infested some grain sorghum in northern and western Hidalgo and eastern Willacy Counties week ending April 30. Heavy in one-third of field near McCook; some plant loss. Counts declined in Bell and Falls Counties. Still in most wheat across the panhandle. Damaged 20 percent of some isolated fields in Hansford County. Activity light throughout Rolling Plains area. Averaged 20 per row foot on wheat in Castro County. Lady beetles 25 per row foot greatly reduced populations in Castro County. (Boring et al.).

TOBACCO BUDWORM (Heliothis virescens) - FLORIDA - Damaged 50-60 percent of untreated tobacco by April 28 at Live Oak, Suwannee County. Infested flue-cured tobacco from Madison and Hamilton Counties southward to Alachua County. (FL Coop. Sur.).

TOBACCO HORNWORM (Manduca sexta) - FLORIDA - First of season light on tobacco in northern area April 20. (FL Coop. Sur.).

CORN, SORGHUM, SUGARCANE

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Survival high, 92-100 percent in all surveyed fields of corn stubble. Extensive fall plowing and stalk chopping probably significantly reduced overall population. Pupation 8 percent at Beaver Dam, Dodge County. (WI Pest Sur.). MINNESOTA - Survival averaged 93 percent in corn in southwest, south-central, and southeast districts. (MN Pest Rpt.).

BLACK CUTWORM (Agrotis ipsilon) - NORTH CAROLINA - Damage continued in Coastal Plain counties with 15 percent stand loss in one Pender County and 3 Duplin County fields. Damage limited to spot infestations in few Piedmont fields. (Hunt). NEBRASKA - First adults of season in Clay County. (Peters).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - ALABAMA - Destroyed one in 50 stalks of young corn in 100-acre Baldwin County field following grass sod in Baldwin County; soil had been treated. (Coats).

SMALL GRAINS

DISEASES

LOOSE SMUT OF BARLEY (Ustilago nuda) - MARYLAND - Heavy in 60 acres of barley near Preston, Caroline County. Yield reductions expected to be 30+ percent. (U. Md., Ent. Dept.).

INSECTS

WHEAT STEM MAGGOT (Meromyza americana) - TEXAS - Damaged wheat in Haskell and Baylor Counties week ending April 30. (Boring).

AN APHID (Rhopalosiphum padi) - ILLINOIS - Heavy, 50-100 per wheat plant, in Madison County. (IL Ins. Rpt.).

TURF, PASTURES, RANGELAND

INSECTS

A GRASS BUG (Labops hesperius) - NEBRASKA - Up to 30 per sweep in 14 wheatgrass pastures in panhandle. Damage severe in some pastures and injury in some adjacent wheatfields. (Hagen).

A SCARAB (Ataenius spretulus) - OHIO - Clusters of up to 12 eggs 1-2 inches below soil surface in golf courses at Cincinnati, Hamilton County, by May 5. (Wegner).

A WHITE GRUB (Phyllophaga sp.) - TEXAS - White grubs 5-6 per square foot in lawns of Oldham and Potter Counties week ending April 30. Larvae heavy in lawns in Tom Green and Irion Counties. Adults emerged in Nueces County. (Patrick et al.).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - NEVADA - Larvae averaged one per sweep in hay alfalfa at Stillwater, Churchill County. (Blalock). UTAH - Adults near Logan, Cache County, increased from zero to 21 per 200 sweeps in 10 days. Some eggs overwintered. Larval count tripled. (Davis, Spaid). NEW MEXICO - Collections taken in Hondo Valley, Lincoln County. Counts per 25 sweeps in Valencia County up to 150 larvae and 1-4 adults. Damage noticeable. (NM Coop. Rpt.). TEXAS - Counts per square foot of alfalfa by county week ending April 30: Hemphill 30; Bailey 20-25; Castro, Parmer, and Deaf Smith 10-20. Treatment in all these counties. Larvae averaged 8 per sweep in Castro County. Some treatment in Yoakum County. (Patrick, Morrison).

NEBRASKA - Alfalfa weevil averages per 100 sweeps of forage legumes and average percent of tip feeding by county: Otoe 188.8 larvae, 13.6 adults, 9.6 percent in 22 fields; Dawson 6.4 larvae, 2.8 adults, and 0.3 percent in 24 fields; Sarpy 5 larvae, no adults, less than one percent in one field; Richardson 900 larvae, 40 adults, 100 percent in one field; York and Hamilton 2 larvae and fewer than one adult per sweep in 7 fields. (Stevens et al.). IOWA - Larvae continued damage to alfalfa across southern half of State. Pupae in southern counties. Damage increased in central counties. Larvae 0.5-0.6 per stem in Pottawattamie County. Tip feeding 30-80 percent on 12 to 13-inch alfalfa. Treated as far north as Pottawattamie and Harrison Counties. Gravid females in fields. Larvae in Pottawattamie County 70-93 percent in first two instars. (DeWitt). MICHIGAN - Larvae numerous on forage in Berrien, Cass, and Van Buren Counties week ending April 30. (Ruppel et al.). OHIO - Counts in northern area up slightly. Damage 0-45 percent, all below economic threshold. Economic in central counties; controls applied. Larvae mostly in last instar throughout central and northern areas, some early instars in southern counties. Larvae per 100 sweeps (and percent of stems with feeding damage) by county: Hancock 40 (trace), Sandusky 132 (25), Seneca 30 (trace), Crawford 57 (10), Wyandot 227 (45), Huron 43 (5), Wayne 164 (18), Morrow 68 (10), Delaware 375 (70), Madison 424 and 163 (65 and 50), Clark 526 (55). Plants 9-15 inches tall. (Lewis et al.).

WEST VIRGINIA - Percent of alfalfa weevil tip infestation (and of defoliation) by county: Preston 72 and 52 (15-25 and 0-5) in 2 fields; Mason, Jackson, Wood, Pleasants, Marshall, Ohio, Brooke, and Hancock 90-100 (50-100), treatments applied. Alfalfa stands generally in poor condition. (Weaver, Hacker). VIRGINIA - Infested 43 percent of forage tips in 4 fields (32 acres) in Culpeper, Montgomery, and Washington Counties. Average estimated defoliation 18.8 percent. Serious damage in most fields. Two fields (50 percent) exceeded recommended treatment threshold. Larvae averaged 0.25+ inch. (Allen et al.). MARYLAND - Pupation (40-50 percent) underway in all areas. Fewer than 300 acres treated. Damage peaked 7-10 days ago. (U. Md., Ent. Dept.). PENNSYLVANIA - Adults 4 per 20 sweeps in 2 alfalfa fields in Centre County May 5. Larval damage light to moderate. (Shetlar). First-generation larval damage across entire southern half of State. Spring eggs will be hatching next few weeks. (Gesell).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - KANSAS - Moderate in alfalfa field in Riley County near Manhattan. Collected by E. Sorenson, April 6, 1976. Determined by M.B. Stoetzel. This is a new State record. Found in second field in this county following week. Light in alfalfa field in Cloud County near Concordia April 21. Collected and determined by K.O. Bell. This is a new county record. (Bell). NEW MEXICO - Specimens swept from alfalfa in Mesilla Valley, Dona Ana County, by J. Ellington, April 13, 1976. Determined by R.C. Dickson. This is a new State record. Ratio of one A. kondoi to 3 A. pisum (pea aphid). Specimens found on alfalfa in Virden Valley, Hidalgo County, in early April. Collected and determined by W. Iselin. This is a new county record. (NM Coop. Rpt.). NEVADA - This species and A. pisum averaged 2 per sweep in hay alfalfa at Stillwater, Churchill County. (Blalock).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - Adults very active; pinhole damage on new alfalfa growth in southeastern and central areas. Adults 55 per sweep in 2 fields in Centre County. (Shetlar).

BROWN WHEAT MITE (Petrobia latens) - NEVADA - Heavy, generally scattered, localized infestations on hay alfalfa at Fallon and Stillwater, Churchill County. Limited controls applied with irrigation. (Blalock et al.).

MISCELLANEOUS FIELD CROPS

INSECTS

REDBACKED CUTWORM (Euxoa ochrogaster) - OREGON - Mostly third and fourth-instar larvae in Jefferson County peppermint fields, averaged 5.2 (high of 18) per square foot in one field. (Danielson, Berry).

POTATOES, TOMATOES, PEPPERS

INSECTS

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - SOUTH CAROLINA - Counts moderate to heavy, damage extensive, to tomatoes in several coastal counties, especially Charleston and Beaufort. Unusual amount of damage for State. (McCaskill).

GENERAL VEGETABLES

INSECTS

ASPARAGUS BEETLE (Crioceris asparagi) - MARYLAND - Adults 2-6 per foot of row in unsprayed asparagus in Wicomico, Kent, and Caroline Counties. (U. Md., Ent. Dept.). OREGON - Very actively feeding and mating on asparagus at Hermiston, Umatilla County. (Goeden).

A LEAFMINER FLY (Liriomyza sativae) - FLORIDA - Typical spring increase on celery at Belle Glade, Palm Beach County. Mines 400 or fewer per treated plant and 2,000 per poorly treated plant. (FL Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

DISEASES

FIRE BLIGHT (Erwinia amylovora) - NEW YORK - Bacteria recovered from intact canker margin surfaces in pear orchard between Phelps and Newark, Wayne County, week of April 19. Rain probably disseminated bacteria from cankers to open blossoms, but temperatures very cool. (Beer).

APPLE SCAB (Venturia inaequalis) - NEW YORK - Due to little wetting, mature spores built up for massive discharge. On April 23, the one hour ascospore discharge test showed 1,000+ ascospores per microscopic field. Rain released this high level of inoculum in western area. (Arneson). CONNECTICUT - Infection period statewide with rains; overwintering spores 25 percent discharged at New Haven, New Haven County. (Kollas).

BLACK KNOT (Dibotryon morbosum) - NEW YORK - Heavy discharge of ascospores occurred at green tip stage on prunes. Substantial infection probably took place and will continue throughout period of shoot growth. (Arneson).

APPLE POWDERY MILDEW (Podosphaera spp.) - NEW YORK - Sporulated abundantly on infected spurs in tight cluster stage of development. Few infected buds probably survived winter. (Arneson).

CEDAR-APPLE RUST (Gymnosporangium juniperi-virginianae) - WISCONSIN - Galls on juniper and redcedar produced telial horns in southern counties. (WI Pest Sur.). RHODE ISLAND - Galls on wild junipers near commercial orchards extruded telial horns in Providence and Kent Counties. (King, Larmie).

INSECTS

A GRACILLARIID MOTH (Lithocolletis blancardella) - MICHIGAN - Adults very heavy at Belding, Ionia County, by April 24; adults at Montrose, Genesee County, and Sparta, Kent County, April 28. Egg laying proceeded rapidly week ending April 30 with 5-20 eggs on some leaves. Adults peaked. (Brunner).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - CONNECTICUT - Adults, eggs, and larvae at Bethany, New Haven County. Adults trapped at New Haven, 112. (Kollas). RHODE ISLAND - Adults active in commercial orchards in Providence County. (King).

A TORTRICID MOTH (Platynota idaeusalis) - PENNSYLVANIA - First adults of season in pheromone traps in Adams and Franklin Counties from April 28 to May 5. (Tetrault).

GREEN FRUITWORM (Lithophane antennata) - MICHIGAN - Adults at Hart and Shelby, Oceana County. First larva noted near Shelby on April 28. (Cater). Larvae found in southwestern area and Montrose week of April 30. No serious populations in commercial orchards in Grand Rapids area. (Brunner).

PLUM CURCULIO (Conotrachelus nenuphar) - MARYLAND - Adults active statewide. Several peach trees near Bel Air, Harford County, and 10-20 percent of fruit with feeding scars. (U. Md., Ent. Dept.). OHIO - Adults heavy on plum trees. Population 2-3 weeks ahead of 1975. Egg laying began on newly developed plums. Damage to apples and peaches could be greater since plum fruit set quite light. (Levine).

PEAR PSYLLA (Psylla pyricola) - MICHIGAN - First egg hatch at Hart and Shelby, Oceana County, April 24. (Cater). Eggs 80 percent hatched in southwest area week ending April 30. (Brunner). PENNSYLVANIA - First-generation adults active in Delaware County. (Tetrault). RHODE ISLAND - Beginning to build up in unsprayed pear orchards at Providence, Providence County. (King).

WOOLLY APPLE APHID (Eriosoma lanigerum) - TENNESSEE - Infested several very small apple trees in central and western areas. Very heavy for time of year. (Gordon, Bruer).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - About 1,000 per twig and limb on peach and apple trees at Escondido, San Diego County. (CA Coop. Rpt.).

SMALL FRUITS

INSECTS

GRAPE FLEA BEETLE (Altica chalybea) - NORTH CAROLINA - Larval defoliation continued in scattered grape plantings over entire Coastal Plain. Infested up to 50 percent of plantings in 5 Pender County fields and one Johnston County field. (Hunt). MICHIGAN - Appeared heavy on grapes in Barry and Calhoun Counties week of April 30. (Liebherr).

ORNAMENTALS

INSECTS

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - FLORIDA - Adults moderately infesting 5 percent of 20 privet plants (Ligustrum sinense) in nursery at Jennings, Hamilton County. Collected by C.H. Webb, April 28, 1976. Determined by G.W. Dekle. This is a new county record. (FL Coop. Sur.).

FOREST AND SHADE TREES

DISEASES

RED PINE SHOOT BLIGHT (Sirococcus strobilinus) - WISCONSIN - Infected Pinus resinosa (red pine) seedlings beneath overstory of older pine in Bayfield, Forest, Oneida, Sawyer, and Vilas Counties. Drooping brown needles of last year's growth evident. (WI Pest Sur.).

INSECTS

LARCH CASEBEARER (Coleophora laricella) - PENNSYLVANIA - About two-thirds of population in pupal stage on 2 plantations of larch trees at Spring Grove, York County, by May 4. Defoliation moderate to heavy. Adults beginning to emerge. (Simons).

SPRUCE NEEDLEMINER (Taniva albolineana) - OHIO - Moderate on Norway and Black Hills spruce in Carroll County. Larvae in last instar; pupation started. (Balderston).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - MISSOURI - Heavy on ornamental pine planting in Platte County. Completely defoliated some small Scotch pines. (Burgess).

PINE NEEDLE SCALE (Chionaspis pinifoliae) - RHODE ISLAND - First egg hatch in Kent County. (Relli). Heavy on two-needle pine in landscape plantation in Washington County. (Gardner).

FALL CANKERWORM (Alsophila pometaria) - MINNESOTA - First and second larval instars on elm in Hennepin and Ramsey Counties. (NM Coop. Rpt.). PENNSYLVANIA - Defoliation on oaks and maples moderate to heavy in upper crowns of trees south of Mt. Gretna, Lebanon County, by May 6. (Simons). Will be most severe in north-central and northwest areas. (Kim). RHODE ISLAND - Larvae 0.5-0.75 inch long, feeding on landscape trees. Projected problems lightest in 2 years in Kent County. (Relli).

BIRCH LEAFMINER (Fenusa pusilla) - RHODE ISLAND - Adults active around wild and ornamental birch trees in Providence County. (Relli).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - PENNSYLVANIA - First crawlers of season on silver maple tree at Halifax, Dauphin County, May 2. (Henry).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - TEXAS - Increased on cattle and sheep in many counties throughout San Angelo area; noticeably in McCulloch, Callahan, Irion, Nolan, and Sterling Counties week ending April 30. (Wilson). MISSISSIPPI - Adults averaged 30+ per head on Oktibbeha County cattle. (Anderson).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Adults 20-50 per head on Oktibbeha County cattle. (Anderson).

STORED PRODUCTS

INSECTS

A DERMESTID BEETLE (Trogoderma glabrum) - MARYLAND - Larvae heavy in several tons of stored barley at Baltimore City. To be fumigated. (U. Md., Ent. Dept.).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

ICHNEUMONID WASPS - OHIO - Adults of 2 parasitoid species of Hypera postica (alfalfa weevil) active. Bathyplectes curculionis swept from nearly every field surveyed statewide; adults 0-6 per 100 sweeps. B. anurus adults present as of May 4 in Wayne County. (Lewis, Flesse). MICHIGAN - Adult of Lemophagus curtus, larval parasitoid of Oulema melanopus (cereal leaf beetle), recovered from emergence trap in Berrien County April 29, earliest recovery of last 3 years. (Holmes).

A MYMARID WASP (Anaphes flavipes) - Adults recovered from Oulema melanopus (cereal leaf beetle) eggs in following States:
MARYLAND - Collected from Charlton, Washington County, May 5.
OHIO - From Troy Township, Geauga County, April 15. From Thorn Township, Perry County, May 3. MICHIGAN - From 8 wheatfields in Galien Township, Berrien County, May 5. (PPQ).

A EULOPHID WASP (Tetrastichus julis) - WEST VIRGINIA - Larvae recovered from Oulema melanopus (cereal leaf beetle) larvae in field insectary in Robinson Magisterial District, Mason County, May 3. (PPQ).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - KENTUCKY - Eggs averages per square foot of oats by county: Bourbon 0.02, Fleming 1.13, Jefferson 1.35, Lewis 2.8, Nicholas 0.15, Shelby 0.47. One Lewis County field up to 16 (averaged 4.1) eggs per square foot. (Sperka). WEST VIRGINIA - Eggs averages per square foot of oats by county: Pleasants ranged 2-8 and larvae 2-6; Wood 1.8 per square yard, Putnam 2, Mason 3.6. Counts on wheat by county: Hancock 52 adults per 100 sweeps and 3 eggs per square foot; Brooke 17 adults per 100 sweeps, 3 eggs and 2 larvae per square foot. (Tustin et al.). VIRGINIA - Collected on wheat near Brunswick, Brunswick County, by E.B. Drewry, April 5, 1976, near McKenney, Dinwiddie County, by C.R. Whitley and at Negro Foot, Hanover County, by V. Hoyos, April 28. Determined by R.E. White. These are new county records. (PPQ). PENNSYLVANIA - Eggs 1-20 per 2 feet of row of oats and adult damage up to 20 percent in southern counties. Up to 70 adults per 20 sweeps of wheat in northwestern counties. (Kadow et al.). NEW JERSEY - Adults collected from mixed oats and rye at Atco, Camden County, April 19, 1976, from wheat at Mickleton, Gloucester County, and at Landisville, Atlantic County, April 20 by B.C. Emens; from wheat in Plumbsted Township, Ocean County, by R.F. Fisher and B. Emens April 21; and from wheat in Upper Deerfield Township, Cumberland County, by R.L. Morris, April 26. All determined by R.E. White. These are new county records. (PPQ).

GYPSY MOTH (Lymantria dispar) - PENNSYLVANIA - Hatch should end by May 10. Major activity will be confined to eastern half of State. (Kim).

JAPANESE BEETLE (Popillia japonica) - ARKANSAS - One female trapped at West Memphis, Crittenden County, by H. Bud, July 28, 1975. Determined by R.D. Gordon. This is a new county record. (PPQ). MASSACHUSETTS - Larvae heavy, four per square foot; damage noticeable in western area lawns. (Adams).

SCREWORM (Cochliomyia hominivorax) - Total of 268 cases reported from continental U.S. April 25 to May 1 only in Texas. Total of 245 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 194 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 122,140,800 as follows: Texas 112,986,000; Arizona 9,154,801. Total of 20,905,200 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

General Vegetables - CABBAGE WEBWORM (Hellula rogatalis) infestations and damage heavy in 0.25 acre of mustard cabbage ready for harvest at Pearl City, Oahu. Larvae 1-3 in 80+ percent of heads. Infestations and damage light to moderate in 5-50 percent of 1.5 acres of spoon cabbage terminals at Waianae, and in 6 acres of mustard cabbage and 5 acres of daikon at Pearl City and Waianae, Oahu. All acres treated regularly. (Chun, Nakahara). DIAMONDBACK MOTH (Plutella xylostella) moderate in 0.25 acre of mustard cabbage at Pearl City; 30-40 percent of plants damaged. (Nakahara).

Pineapple - PINEAPPLE MEALYBUG (Dysmicoccus brevipes) heavy in experimental planting at Waipio, Oahu. (Mau).

Ornamentals - HIBISCUS LEAFMINER (Parectopa hibiscella) infestations and damage moderate in 60-foot long planting at Hickam Air Force Base, Oahu. Damage to lower leaves (30 percent of foliage) extensive. (Kajiwarra).

Detection - Two larvae of OLEANDER HAWK MOTH (Deilephila nerii) feeding on leaves of Stemmadenia galeottiana (lechoso) at Salt Lake, Oahu, by J. Kajiwarra on April 24, 1976. This is a new host record for Hawaii. (Kajiwarra).

DETECTION

NEW STATE RECORDS

INSECTS

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEW MEXICO - Dona Ana County. (p. 218). KANSAS - Riley County. (p. 218).

NEW COUNTY RECORDS

INSECTS

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEW MEXICO - Hidalgo; KANSAS - Cloud (p. 218).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - FLORIDA - Hamilton (p. 220).

JAPANESE BEETLE (Popillia japonica) - ARKANSAS - Crittenden (p. 222).

CEREAL LEAF BEETLE (Oulema melanopus) - VIRGINIA - Brunswick, Dinwiddie, Hanover; NEW JERSEY - Camden, Gloucester, Atlantic, Ocean, Cumberland (p. 222).

LIGHT TRAP COLLECTIONS

[illegible]

WEATHER OF THE WEEK ENDING MAY 9

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: A large polar outbreak moving southward and eastward spread cold air over the Nation east of the Continental Divide. Many record low temperatures were set. The greatest departures from normal average temperatures for the week were from southern Illinois to west Texas, where readings were 9 and 10 degrees below normal. The Pacific Northwest was 4-6 degrees above normal. Precipitation occurred along and ahead of the moving mass of cold air. One to 2 inches fell from southern Kansas through the Great Lakes area, while the areas from central Texas to South Carolina accumulated a similar amount and also reported severe weather in the form of hailstorms and tornadoes.

TEMPERATURE AND PRECIPITATION: Record low temperatures were broken or tied as the weekend cold front continued to push toward the Atlantic coast on Monday morning. Record shattering lows ranged from North Platte, Nebraska, 20 degrees, to Ottumwa, Iowa, 32 degrees. In Albany, New York, frigid air slashed 17 degrees off a.m. readings in just 1.5 hours. Except for the gulf and southern Atlantic coast regions, cold air staked a claim on the entire Nation east of the Continental Divide. As the cold air blast collided with warm moist air over the area, strong thunderstorms developed. Snow flurries skipped across the lower Great Lakes region. Showers focused on the northern Atlantic Coast States and were more scattered in the central areas. Tuesday again brought shivers to the central and eastern United States as a large high pressure center over Kentucky spread unseasonable cool air from the Midwest to portions of the Atlantic coast. Near or below freezing readings staged a takeover from the upper Mississippi Valley to the Appalachians. During the day, remnants of cold air maintained a grip on parts of the Northeast and the Appalachians. In the Midwest, temperatures climbed into the 60's in some sections thanks to a southerly flow of moist air from Texas into the Great Lakes and Ohio Valley regions. Confined mostly to the western United States, widely scattered precipitation included some showers that sprang up in western Washington as a cold front approached the northern Pacific coast.

Elsewhere thunderstorms and showers stretched from southwest Texas north along the Rockies into Montana then east across the Plains into Minnesota. Moving southward through the Plains on Wednesday, the cold front produced scattered showers and thundershowers from the northern Great Lakes region across the upper Mississippi Valley into the lower Great Plains. Some heavy thunderstorms spawned golf ball-sized hail in Kyle, Texas. At midweek, near normal temperature, returned to the eastern States ranging from the 60's in the North to 80's in the South. Meantime, another cool air mass that spread across the central United States halted afternoon temperatures in the 40's in the Dakotas and Minnesota where the day before readings in the 70's and 80's prevailed. The large cold air mass from Canada settled over the north-central United States overnight and plunged temperatures into the teens and 20's by Thursday morning. Roseau, Minnesota, in the extreme northwestern part of the State, reported 16 degrees for the Nation's low. Other

record lows were established as far south as North Platte, Nebraska, 24 degrees. Precipitation in the form of rain, showers, or thunderstorms occurred along and ahead of the cold front from Texas to the eastern Great Lakes and into New England. Three tornadoes were reported in Alabama and damaging hail fell in Mississippi and in central Texas. Flash flood warnings went out in Texas as a result of heavy rains spawned by fierce combat between southward moving cold air and a determined northward flow of warm air. Cold weather continued on Friday as polar air moved south and eastward, setting record low temperatures as far south as Missouri. By late Friday, the leading edge of cold air had moved into New England, to eastern Virginia, Alabama, and into southern Texas. Thunderstorm activity continued along and ahead of the front with the most severe storms occurring in the South. Hail was reported in Alabama and Texas with the most damage occurring in southeast Texas where several tornadoes were also reported. Shower activity was reported in the Southwest where scattered activity occurred from central Nevada southward. On Saturday, a cold high pressure was centered over Illinois and dominated the entire eastern United States. Toledo, Ohio, reported a record low of 28 degrees and Fort Smith, Arkansas, 42 degrees. Showers and thunderstorms continued from southern Louisiana to the Carolinas along the now slow moving cold front. Rain showers and scattered thunderstorms continued in the Southwest and extended their coverage to west Texas. Fine weather prevailed over much of the Nation on Sunday as high pressure dominated the East. Abundant sunshine began to warm the eastern States to near normal temperatures. A southerly flow began bringing warmer weather back to the Plains--Grand Forks, North Dakota, reported a high of 86 degrees. Light showers and a few thunderstorms dotted the Plains States from Kansas to southern Texas during the day and also portions of Florida, Colorado, and western Montana. Cloudiness covered the Pacific coast, southern Alabama and Georgia. Otherwise, the Nation was clear to partly cloudy.

CORRECTIONS

CPPR 1(14):135 - PEA APHID (*Acyrtosiphum pisum*) ... should be PEA APHID (*Acyrtosiphon* pisum) ...

CPPR 1(14):138 - GENERAL VEGETABLES - ... parasitism by ...
A. dignis should be ... parasitism by ... A. dignus ...

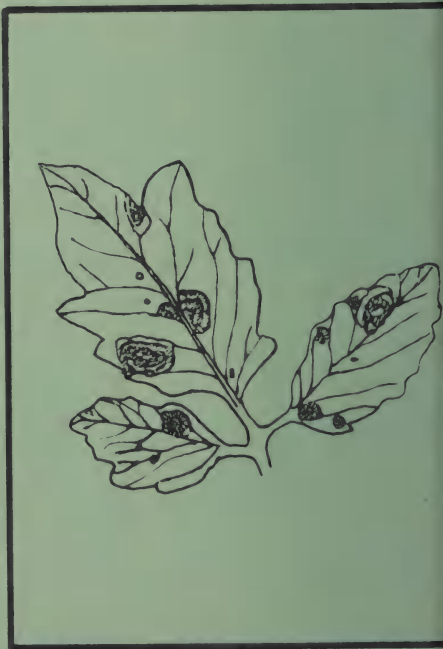
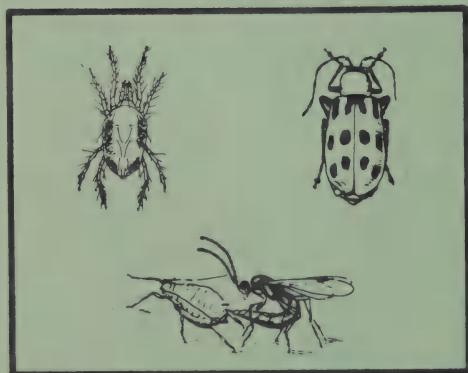
CPPR 1(16):166 - IMPORTED CABBAGEWORM (*Peris rapae*) should be IMPORTED CABBAGEWORM (Pieris rapae)

CPPR 1(17):191 - PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) ... should be PINE NEEDLE SCALE (Chionaspis pinifoliae) ...

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
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Cooperative PLANT PEST REPORT

PROCUREMENT SECTION
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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
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Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Extensive damage by GRASS BUGS to wheatgrass in parts of Utah and Nebraska. BLUEGRASS BILLBUG damaged turf in these States. (p. 232).

SPRING BLACK STEM heavy on alfalfa in Kansas. (p. 233).

ALFALFA WEEVIL continued to damage alfalfa in southern Iowa and in Illinois. Larvae over 2,000 per 100 sweeps in one part of Nebraska. Some heavy counts in West Virginia. (pp. 233-234).

GREEN PEACH APHID increased 3-fold on tobacco in Florida. POTATO VIRUS Y present. (p. 235).

Peas treated for PEA APHID in Maryland and Delaware. (p. 236).

SPRING and FALL CANKERWORM defoliation in Maryland. (p. 240).

MORMON CRICKET nymphs up to 35 per square yard in northeastern Nevada. (p. 244).

Detection

CHALKBROOD is a new State record in Indiana. (p. 242).

For new county records see page 245.

Reports in this issue are for the week ending May 14 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

DISEASES

ASTER YELLOWS VIRUS - MINNESOTA - Indexing on asters showed 2 percent infection. (Peterson). See ASTER LEAFHOPPER under this section.

INSECTS

ARMYWORM (Pseudaletia unipuncta) - OKLAHOMA - Adults continued common in light traps in Payne County, trapped 20 on May 4, and 5 adults on May 5. (OK Coop. Sur.). MISSOURI - Larvae light to moderate on small grains in southeast area. Up to 8 larvae per square foot. Early head clipping began in this area. (Jones). INDIANA - Larvae on roadside grasses up to 0.5 inch long in southern third of State. (Meyer). ILLINOIS - Larvae 0.25-1 inch in thick, rank stands of small grains in southern half of State. (Sur. Bull.). MARYLAND - All counties light; heaviest count of 3 larvae per 10 sweeps in Dorchester and Wicomico Counties. Eastern Shore peaks expected in 14 days. Blacklight trap data show adults of first brood 2 or 3 times fewer than in 1975. (U. Md., Ent. Dept.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Infestations readily found in winter grains, oats, and alfalfa throughout southern third of State and in west-central and central areas. Counts per 100 sweeps of 200 on Waushara County rye and of 25 on Rock and Lafayette County oats. (WI Pest Sur.). MINNESOTA - Increased slightly, 14-25 per 100 sweeps of rye, at Becker, Sherburne County. Averaged 48 per 100 sweeps of alfalfa in Anoka County. (MN Pest Rpt.). See ASTER YELLOWS VIRUS under this section.

GREENBUG (Schizaphis graminum) - TEXAS - Heavier than usual on grain sorghum in Nueces County week ending May 7. Honeydew noted. Colonies averaged 15-20 aphids. No damage. Infestation in Gonzales County. Very light on grain sorghum in Williamson and Milam Counties. (Glodt). OKLAHOMA - Light on most wheat in central and south-central counties week ending May 7. Light on wheat heads in Washita County. (OK Coop. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - First of season on alfalfa at 2 locations in Lafayette County May 11. Count of 2 per 100 sweeps at one site. (WI Pest Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Continued decline on alfalfa in southeastern counties of east-central district week ending May 7, mostly due to beating rains. Declined from 50 to 10 per sweep April 26 to May 5 in Franklin County field. Averaged 25 per sweep in 14-inch alfalfa in Meade County, first significant report from this area. (Bell). WISCONSIN - Up to 100 per 100 sweeps of alfalfa in southern third of State and in central and west-central areas. (WI Pest Sur.).

TOBACCO HORNWORM (Manduca sexta) - FLORIDA - Infested 5 percent of untreated flue-cured tobacco at Live Oak, Suwannee County. (FL Coop. Sur.).

CORN, SORGHUM, SUGARCANE

DISEASES

STEWART'S WILT (Erwinia stewartii) - KANSAS - Affected about 5 percent of corn seedlings in field in Miami County. (Sim).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - ILLINOIS - Adults emerging in southern area; borer development well ahead of corn development in this area. Pupation 28 percent in central area. (Sur. Bull.). INDIANA - Pupation complete in Daviess County cornfield. (Meyer). WISCONSIN - Pupation underway at several southern corn sites, and first adults of season in southern and central area blacklight traps. (WI Pest Sur.). DELAWARE - Adults averaged 2-3 per night in blacklight trap collections in Sussex County where first eggs of season on sweet corn, dock, and potatoes. (Burbutis, Kelsey).

BLACK CUTWORM (Agrotis ipsilon) - NORTH CAROLINA - Damage reports decrease as cornstalk size increases. Stand loss 15+ percent in late-planted or late-germinating fields in few scattered fields in Robeson and Cumberland Counties. (Hunt). MISSOURI - Light to moderate in isolated fields statewide. Damaged small corn in southeast area. (Jones).

CORN ROOT WEBWORM (Pediasia caliginosella) - NORTH CAROLINA - Larval damage to corn more severe this spring than reported in previous years. Stand losses in excess of 5+ percent May 3-10 in 6 acres in Pender County field and in small Wake County field. (Hunt).

WEEVILS (Sphenophorus spp.) - NORTH CAROLINA - Adult damage by S. callosus and S. maidis (maize billbug) continues on corn over entire Coastal Plain. Stand loss 30-50 percent in 9-acre field in Harnett County and 10-acre field in Wilson County. Both fields destroyed and replanted. Maize billbug predominant species in Harnett, Wilson, Johnston, Wake, and Nash Counties. (Childers et al.). MARYLAND - S. maidis damaged 57 percent of corn in 70 acres in Frederick County and 62 percent of plants in 20 of 60 acres in Kent County field. (U. Md., Ent. Dept.).

SMALL GRAINS

DISEASES

BLACK STEM RUST (Puccinia graminis) - SOUTH CAROLINA - Severe outbreak in wheatfield in Calhoun County April 30. (Kingsland).

LEAF RUST OF WHEAT (Puccinia recondita var. tritici) - KANSAS - Became apparent on wheat in Sedgwick and Kingman Counties; rust pustules on 5-10 percent of leaf area week ending May 7. Traces in Harvey County. (Sim).

LOOSE SMUT (Ustilago nuda) - KANSAS - Trace on wheat in Harvey and Sedgwick Counties week ending May 7. Currently, percent infection of barley by county: Cowley 4, Labette 5. Trace on wheat in Shawnee, McPherson, and Osage Counties. (Sim).

POWDERY MILDEW OF WHEAT (Erysiphe graminis var. tritici) - SOUTH CAROLINA - Stabilized as of April 30 on winter wheat in western area. Disease coupled with severe drought seriously reduced yield potential for 1976. (Kingsland). DELAWARE - Some heavy infection on some wheat varieties in Sussex County week ending May 7. Recent weather ideal for development. (Carroll). NEW YORK - Continued cool, damp weather favored extreme prevalence in some wheatfields near Ithaca, Tompkins County; much yellowing of leaves week ending May 10. (Schultz). KANSAS - Percent of wheat infected (and severity) by county week ending May 7: Sedgwick 20-50 (moderate), Dickinson 10-50 (light to moderate), McPherson 10-30 (light to moderate), Riley 10-15 (light). Current percent of infected plants with moderate to heavy infections by county: Montgomery 75, Shawnee 5-80. Light infection in Cloud (2-3 percent) and Mitchell (2-50 percent) Counties. (Sim).

SPECKLED LEAF BLOTCH (Septoria tritici) - KANSAS - Prevalent on wheat statewide week ending May 7. Percent of infected plants by county: Sedgwick 20-60, McPherson 30-75, Dickinson 10-30. Generally light to moderate. Currently widespread on wheat throughout central area. Recent cool, moist weather increased severity of infections. Percent of infected plants with light to moderate infections by county: Clay 80, Cloud 80, Mitchell 80, Osborne 60, Ellis 40-80, Trego 100, Ness 30, Saline 90, Labette 10, Rush 90. Percent of infected plants with moderate to heavy infections by county: Russell, Barton, Pawnee, Edwards, Kiowa, Pratt, Reno, and McPherson each 100; Dickinson 90-100. (Sim). NEBRASKA - Began to appear on lower leaves of wheat in some southeast and south-central counties week ending May 7. Rapid buildup possible if rain continues. (Watkins et al.).

GLUME BLOTCH (Septoria nodorum) - SOUTH CAROLINA - Increased as of April 30 on winter wheat in western area. (Kingsland).

CEPHALOSPORIUM STRIPE OF WHEAT (Cephalosporium gramineum) - KANSAS - Prevalent on wheat in central area week ending May 7. Percent of infection by county: Harvey 5, Sedgwick 5-60, Dickinson 10-30, McPherson 10-60. Currently trace on wheat in Saline County. Varying amounts in northeast area. (Sim). MONTANA - In winter wheat near Bozeman, Gallatin County, Fort Benton, Chouteau County. Bozeman field had highly susceptible variety. Potential yield reduction about 35 percent. (Burns).

HELMINTHOSPORIUM LEAF SPOT (Helminthosporium sativum) - KANSAS - Infected most wheatfields statewide week ending May 7. On 5 percent of plants in Riley County field. Affected 60-80 percent of plants in surveyed fields in Harvey, Sedgwick, and McPherson Counties. (Sim).

TAKE-ALL (Gaumannomyces graminis) - KANSAS - Varying amounts in wheat in Marion and McPherson Counties. Affected up to 60 percent of plants in some fields in Labette County. (Sim).

BARLEY YELLOW DWARF VIRUS - KANSAS - Affected 3 percent of barley plants in Jewell County field week ending May 7. Variable on wheat statewide, most obvious in southern area. Percent of plant infection by county: Sedgwick 10-40, Harvey 15, Dickinson 10-20, McPherson 10, Jewell 2, Norton trace, Smith 1, Coffey 5, Lyon trace. Current percent of infected wheat plants by county: Clay 5,

Cloud 2-3, Mitchell 10, Russell trace to 3, Ellis 5, Rush trace, Barton trace, Kiowa 5, Pratt 5, Reno 20, Dickinson 70, Shawnee 3-70, Lane 0-20, Gove 0-20, Thomas varying amounts. Present south of Garden City in Finney County. More prevalent in southern areas. Approximate percent of infected oat plants by county: Lyon 70 and Douglas 5-20. (Sim).

WHEAT STREAK MOSAIC VIRUS - KANSAS - Prevalent in volunteer wheat in Pratt, Kiowa, Rush, and Ness Counties week ending May 7. In seeded wheat throughout western area. Trace in Haskell and Stevens Counties. KANSAS - Current percent of plants infected by county: Russell 2-3, Ellis 75, Trego 50, Lane 20, Gove 75, Decatur 20-40, Sheridan 20-100. (Sim).

INSECTS

WHEAT STEM MAGGOT (Meromyza americana) - OKLAHOMA - Infestations averaged about one percent on heads of wheat in Tillman County and less than one percent in wheat in Lincoln, Grady, Pottawatomie, Garvin, Carter, Jefferson, and Stephens Counties week ending May 7. (OK Coop. Sur.).

CHINCH BUG (Blissus leucopterus leucopterus) - TEXAS - Damage moderate to heavy in many sorghum fields in Lamar and Delta Counties week ending May 7. (Lewis).

BROWN WHEAT MITE (Petrotia latens) - SOUTH DAKOTA - Light to heavy on wheat in Jones and Lyman Counties. Plants yellowed. (Walgenbach).

BANKS GRASS MITE (Oligonychus pratensis) - TEXAS - Ranged 20-30 per small grain plant in Parmer County; one heavily infested field treated. (Patrick, Morrison).

TURF, PASTURES, RANGELAND

INSECTS

GRASS BUGS (Labops spp.) - UTAH - Severely damaged 3,000 acres of intermediate wheatgrass near Alton, Kane County. (Haws, Esplin). Damaged range grasses in Piute County near Junction and Circleville. (D. Roberts, R. Roberts). NEBRASKA - Extensive damage by L. hesperius to wheatgrass pastures continued in panhandle area. (Hagen).

CHINCH BUG (Blissus leucopterus leucopterus) - NEW HAMPSHIRE - Heavy damage to lawns at Milford, Hillsborough County. (Turmel).

BLUEGRASS BILLBUG (Sphenophorus parvulus) - UTAH - Damaged turf at Moab, Grand County. (Stevens, Roberts). NEBRASKA - Adults in lawns and commercial sod in eastern area. Adults averaged 6 per square foot in lawn at Omaha, Douglas County, May 6. Adults averaged 6.5 per square foot in first and second-year sod in commercial operation in this county May 10. Birds very active and feeding on adults, but potential for damage remains high if sod untreated. Much commercial acreage and many lawns already treated. (Kindler).

RANGE CATERPILLAR (*Hemileuca oliviae*) - NEW MEXICO - Egg hatch continued southeast of Clayton, Union County. (NM Coop. Rpt.).

CLOVER MITE (*Bryobia praetiosa*) - RHODE ISLAND - Heaviest statewide infestations in turf, pastures, and rangeland in at least 5 years. (Chaves, Larmie).

FORAGE LEGUMES

DISEASES

SPRING BLACK STEM (*Phoma medicaginis*) - KANSAS - Percent of alfalfa plants infected week ending May 7 by county: Heavy infection - Jewell 100, Graham 100; moderate - Haskell 50, Ellis 50-100, Smith 85, Rooks 40, Phillips 75, Norton 70, Douglas 25; light - Finney 20, Ellsworth 100, Trego 80, Osage 10, Franklin 20, Anderson 15, Linn 20. Current percentage of moderately to heavily infected alfalfa plants by county: Clay, Cloud, Mitchell, Osborne, Ellis, Ness, Pawnee, Dickinson and McPherson each 100, Edwards 80, Saline 90. Percent of light infection by county: Lyon 10 and Trego 40. (Sim).

STEM NEMATODE (*Ditylenchus dipsaci*) - KANSAS - Affected 5-50 percent of alfalfa plants in fields surveyed in Butler and Cowley Counties. (Sim).

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - IDAHO - Adults active in fields; first larvae found near Twin Falls, Twin Falls County, May 7. (Stoltz). NEVADA - Larvae averaged one per sweep of hay alfalfa at Fallon and Stillwater, Churchill County, and Lovelock, Pershing County. (Munk, Wilcox). UTAH - Adults 0-3 per 10 sweeps of alfalfa at Newton, Cache County; larvae very scarce. Larvae, mostly second and third instars, 29 per 100 sweeps near Logan, Cache County. (Davis et al.). NEW MEXICO - Adults 3-5 and larvae up to 30 per 25 sweeps of forage in Bernalillo County. Treatments underway in south valley. (NM Coop. Rpt.).

TEXAS - Alfalfa weevil larvae averaged 16 per square foot of alfalfa in Bailey County week ending May 7. (Morrison). Current damage significant in eastern and southern areas of panhandle. Populations 25-50 per square foot of alfalfa in Hemphill, Wheeler, Gray, and Parmer Counties. (Patrick). Larvae averaged 4 per sweep in Lubbock County field. (Morrison). OKLAHOMA - Counts by county week ending May 7: Washita many larvae in some alfalfa, Beckham lighter, and Garvin averaged 1-2 per 10 sweeps. (OK Coop. Sur.). KANSAS - Heavy on some alfalfa as far west as Rush and Ellis Counties, some treatments in Rush County, week ending May 7. Significant larval buildups as far north and west as Trego, Norton, and Graham Counties. Still relatively light on line from Marshall County west through Phillips County and in most southwest counties. (Bell). NEBRASKA - Averages per 100 sweeps (and average percent tip feeding) by county: Otoe 757.1 larvae, 16.7 adults (9.9 percent tip feeding) in 24 fields; Richardson 2,227.5 larvae, 12.5 adults, (100) in one field, many pupae under alfalfa windrows; Seward 2 larvae and one adult, and 16 larvae and 9 adults in 2 fields; York 16 larvae and 17 adults in one field; Hall 27 larvae and 9 adults in one field; Wayne 80.4 larvae and 3.2 adults in 2 fields. (Stevens et al.). NORTH DAKOTA - Adults averaged 3 per 100 sweeps on McKenzie County alfalfa. (Brandvik).

IOWA - Economic damage by alfalfa weevil on alfalfa continued in southern half of State. About 70 percent of fields in south-central counties treated. Larvae second to last instar. Larvae, 75 percent first or second instar, averaged 0.48 per stem in Cass and east Pottawattamie Counties. Economic damage in about 10 percent of fields. Tip feeding 5-20 percent in Clinton County. Damage to increase in central counties. (DeWitt). ILLINOIS - Alfalfa weevil damage to alfalfa continued south of National Interstate Highway 80. Larvae declined slowly in southern area, but remained heavy in central area. Predators and parasites built up. Still light north of National Interstate Highway 80. (Sur. Bull.). WISCONSIN - Ranged from 75 percent recently hatched larvae in Dane County alfalfa field to 25 percent last larval instar in Rock County. Larvae per 100 sweeps up to 24 in southern half of State and west-central area, and 100 in Walworth County. (WI Pest Sur.). OHIO - Larvae increased slightly on forage in northern area. Damage below economic threshold in most surveyed fields, mostly fourth-instar larvae. Economic in half of east-central county fields, treatment common. (Lewis et al.).

WEST VIRGINIA - Alfalfa weevil larvae per 25 sweeps of alfalfa (and percent defoliation) by county: Morgan 121 (less than 10 percent defoliation) and 187 (50) in 2 fields, Berkeley 7 in field sprayed with systemic insecticide, Jefferson 106 (25), Hardy 2 larvae and 3 adults, Mineral 173 (20), Hampshire 339, Grant 303 (20). (Weaver, Hacker). VIRGINIA - Infested 17 percent of tips in 2 fields (10 acres) of alfalfa in Montgomery County. Average estimated defoliation 15 percent. Most fields treated; none exceeded treatment threshold. (Allen). MARYLAND - First cuttings of most alfalfa completed. Some early cuttings in central area due to heavy infestations. (U. Md., Ent. Dept.). PENNSYLVANIA - Averaged 3 adults per 20 sweeps in 2 fields of alfalfa in Centre County. Larval damage trace. (Shetlar).

BEET ARMYWORM (*Spodoptera exigua*) - OKLAHOMA - First larva of season on alfalfa in Jackson County May 4. (OK Coop. Sur.).

BLUE ALFALFA APHID (*Acyrtosiphon kondoi*) - NEVADA - This species and *A. pisum* (pea aphid) ranged 10-20, averaged 13 per sweep on hay alfalfa at Fallon and Stillwater, Churchill County. (Wilcox).

PEA APHID (*Acyrtosiphon pisum*) - UTAH - Averaged 1 per 10 sweeps of alfalfa at Newton and 20 percent wingless adults near Logan, Cache County. (Davis, Knowlton). OKLAHOMA - Ranged 15-60 per 10 sweeps of alfalfa and averaged moderate on vetch in Garvin County week ending May 7. (OK Coop. Sur.). NORTH DAKOTA - Counts of 10 per 100 sweeps on irrigated alfalfa in McKenzie County. (Brandvik). MINNESOTA - Increased, adults and nymphs 40 per 100 sweeps of alfalfa in Anoka County. (MN Pest Rpt.).

ALFALFA BLOTCH LEAFMINER (*Agromyza frontella*) - PENNSYLVANIA - Adults 262 per 20 sweeps of alfalfa, pinhole damage noticeable, egg laying hard to find in 2 Centre County fields. (Shetlar).

SOYBEANS

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - NORTH CAROLINA - Adults in Washington, Robeson, and Sampson Counties on seedling soybeans. Averaged 2 per 10 feet of row in 5 Sampson County fields. No economic damage to date. (Hunt). INDIANA - First adults of season swept from Jennings County alfalfa field and roadside weeds May 12. (Meyer).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Infested several cotton fields along brush lines across valley and gulf coast areas. Up to 18 punctured squares per 100 plants in one field. (Deer et al.). Total of 18 adults taken from Navarro County traps and 4 from Ellis County. (Moore). GEORGIA - About 4 adults per pheromone trap, 5 adults per foot of row in early planted trap crop, in Dodge County week ending May 8. (Lambert, Rogers). TENNESSEE - Trapped 75 adults in 83 traps in west area. (Locke et al.). One taken in 9 traps in central area. (Cagle).

BOLLWORM (Heliothis zea) - TEXAS - Larvae and damaged green squares ranged 0-3 per 100 plants in lower Rio Grande Valley. No eggs. (Deer, Norman).

COTTON APHID (Aphis gossypii) - TEXAS - Continued to increase on cotton in Nueces and San Patricio Counties. Several fields treated. (Robinson, Rothrock). ALABAMA - Damaged most of 16 cotton fields in Covington, Monroe, Dallas, Montgomery, and Autauga Counties. (Pike et al.).

TOBACCO THRIPS (Frankliniella fusca) - ALABAMA - Damaged most of 16 cotton fields in Covington, Monroe, Dallas, Montgomery, and Autauga Counties. (Pike et al.).

TOBACCO

DISEASES

POTATO VIRUS Y - FLORIDA - Numerous on cigar-wrapper tobacco at Quincy, Gadsden County, and on flue-cured tobacco at Live Oak, Suwannee County. (FL Coop. Sur.). See GREEN PEACH APHID under this section.

INSECTS

GREEN PEACH APHID (Myzus persicae) - FLORIDA - Heaviest since 1970 on untreated flue-cured tobacco at Live Oak, Suwannee County. A 3-fold increase since April 20. Generally infested 30 acres of commercial cigar-wrapper tobacco under shade at Quincy, Gadsden County; counts averaged 15-20 per plant in bud area and 200-300 near bottom of each stalk May 6. (FL Coop. Sur.). See POTATO VIRUS Y under this section.

MISCELLANEOUS FIELD CROPS

INSECTS

CABBAGE SEEDPOD WEEVIL (*Ceutorhynchus assimilis*) - IDAHO - Adults averaged 15 per sweep in rape seed fields near Troy, Latah County, and 90 per sweep near Reubens, Nez Perce County. (Mayer et al.).

POTATOES, TOMATOES, PEPPERS

INSECTS

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - OKLAHOMA - Moderate on garden potatoes in Pittsburg County week ending May 7. (OK Coop. Sur.). DELAWARE - Adults on potatoes in Kent County. (Burbutis, Kelsey). NEW YORK - Flying and feeding on emerging potatoes in Suffolk County May 7. (Weber).

GREEN PEACH APHID (*Myzus persicae*) - NORTH DAKOTA - Infested green peppers in greenhouses at Jamestown, Stutsman County; Valley City, Barnes County; Orrin, Pierce County; Devils Lake, Ramsey County; Neche, Pembina County; Hunter, Traill County; and Grand Forks, Grand Forks County. (Scholl).

BEANS AND PEAS

DISEASES

PEA ROOT ROT (*Aphanomyces euteiches*) - WISCONSIN - Infected 70 percent of peafield in Sauk County. Warm, moist conditions apparently favored early development of disease. (WI Pest Sur.).

INSECTS

PEA LEAF WEEVIL (*Sitona lineatus*) - WASHINGTON - Damaged garden peas at Pullman, Whitman County. (Antonelli). IDAHO - Damaged peas in Nez Perce, Lewis, Clearwater, and Latah Counties. Adults laying eggs; most adults left alfalfa and other perennial legumes. Adult flight peaked May 1-14 in most northern areas. Adults averaged 2+ per plant at Tom Beal, Nez Perce County. (Fisher et al.).

PEA APHID (*Acyrtosiphon pisum*) - MARYLAND - Economic in early pea plantings on Eastern Shore with 1,000+ acres already sprayed. Ranged 10-40 per sweep in early peas and fewer than 5 per sweep in late peas. (U. Md., Ent. Dept.). DELAWARE - Light to moderate on commercial peas in several areas. Many fields treated. (Burbutis, Kelsey).

COLE CROPS

INSECTS

YELLOWMARGINED LEAF BEETLE (*Microtheca ochroloma*) - FLORIDA - Larvae collected on turnip leaves south of Lake City, Columbia County, by A.E. Graham, May 8, 1976. Determined by R.I. Sailer and G.W. Dekle. This is a new county record. (FL Coop. Sur.).

GENERAL VEGETABLES

INSECTS

ONION MAGGOT (Hylemya antiqua) - NEW YORK - Active in Erie County May 3-5. First significant catch of adults in baited cone traps in Wayne and Madison Counties May 12-13. (Young, Willson).

CARROT BEETLE (Bothynus gibbosus) - OKLAHOMA - First 2 adults of season in light traps in Payne County May 5. (OK Coop. Sur.).

ASPARAGUS BEETLE (Crioceris asparagi) - IDAHO - Adults and eggs of this species and 2 C. duodecimpunctata (spotted asparagus beetle) on garden asparagus at Caldwell and Nampa, Canyon County. (Baird).

DECIDUOUS FRUITS AND NUTS

DISEASES

BACTERIAL LEAF SPOT (Xanthomonas pruni) - NEW JERSEY - First infection May 10 on peaches at Hammonton, Atlantic County. (Ins.-Dis. Newsltr.).

BACTERIAL BLIGHT (Pseudomonas syringae) - CONNECTICUT - Observed on pears in many areas of State. (Schroeder).

APPLE POWDERY MILDEW (Podosphaera spp.) - DELAWARE - Very evident on apple terminals in commercial orchards. (Carroll). CONNECTICUT - On unsprayed apple trees at New Haven, New Haven County. (Schroeder).

APPLE SCAB (Venturia inaequalis) - NEW YORK - Ascospore maturity about 25 percent ready to release in Wayne County; 47 percent already released week ending May 10. Light to moderate infection period May 1-2. Sporadic rainfall but no infection periods May 3-10. (Sherf et al.).

INSECTS

LESSER PEACHTREE BORER (Synanthedon pictipes) - INDIANA - Trapped 115 adults in 5 pheromone traps at Vincennes, Knox County, May 7-13. (Reed). NEW JERSEY - Moths began to emerge. (Ins.-Dis. Newsltr.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - OKLAHOMA - Damaged peach twigs in Wagoner and Muskogee Counties week ending May 9. (OK Coop. Sur.). INDIANA - Trapped 340 adults in 5 pheromone traps at Vincennes, Knox County, May 7-13. (Reed).

CODLING MOTH (Laspeyresia pomonella) - WASHINGTON - First male taken in pheromone traps in apple orchard at Chelan, Chelan County, May 8. First brood approached flight peak in lower Yakima Valley and earlier in upper Yakima Valley, Yakima County, May 5. (Hudson, Johnson). IDAHO - Pheromone trap counts by county: Canyon 9 and 16 on May 9-10; Owyhee 2 on May 10. (Baird). INDIANA - Trapped 94 adults in 5 pheromone traps at Vincennes, Knox County, May 7-13. (Reed).

A GRACILLARIID MOTH (Lithocolletis blancardella) - MICHIGAN - Adult emergence peaked week of May 7 at Belding, Ionia County, and eggs very heavy on leaves where severe in 1975. (Brunner).

A TORTRICID MOTH (Platynota idaeusalis) - PENNSYLVANIA - Pheromone traps in Adams and Franklin Counties averaged up to 50 moths per trap. Traps in Columbia and surrounding counties averaged 3 moths per trap. (Tetrault).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - NEW HAMPSHIRE - Began to construct tents in apple orchards at Durham, Strafford County. Infestations light. (Fisher).

PLUM CURCULIO (Conotrachelus nenuphar) - NEW JERSEY - Egg-laying scars 415 per 100 fruit, 3 times more damage than last period, in abandoned peach orchards. No damage in commercial orchards. (Ins.-Dis. Newsltr.).

PEAR PSYLLA (Psylla pyricola) - PENNSYLVANIA - First generation adults began emergence in southern half of State. (Tetrault).

PEAR PLANT BUG (Lygocoris communis) - NEW YORK - Stings on newly set pear fruit in Niagara County May 10. (Pease).

EUROPEAN RED MITE (Panonychus ulmi) - NEW JERSEY - Summer eggs began hatch on apple. Almost entirely in egg stage now with few adults left from past generation and few larvae present for new generation. (Ins.-Dis. Newsltr.).

PECAN NUT CASEBEARER (Acrobasis nuxvorella) - TEXAS - Fed on pecan terminals at Waco, McLennan County, week ending May 7. Damage heavy in some areas. (Hoelscher). OKLAHOMA - Larvae light to moderate in pecan shoots in Murray and Carter Counties week ending May 7. (OK Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - About 100 adults in 6 light traps in pecan orchard in Payne County May 5. Occasional adult on pecan trees in Pottawatomie, Murray, and Carter Counties week ending May 7. (OK Coop. Sur.).

SMALL FRUITS

INSECTS

GRAPE FLEA BEETLE (Altica chalybea) - NEW HAMPSHIRE - Infested commercial grapes at South Weare, Hillsborough County, and Belmont, Belknap County. Leaf injury subeconomic. (Fisher).

CRANBERRY WEEVIL (Anthonomus musculus) - MASSACHUSETTS - Adults feeding and laying eggs in blueberry blossoms in Barnstable County. Adults emerged on cranberry bogs in Plymouth County. Serious damage anticipated. (Tomlinson).

CURRENT FRUIT WEEVIL (Pseudanthonomus validus) - MASSACHUSETTS - Appeared in blueberry fields in Barnstable and Plymouth Counties. (Tomlinson).

RASPBERRY SAWFLY (Monophadnoides geniculatus) - MONTANA - Adults numerous and active on raspberry canes in Hill County. (Jensen).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - OREGON - Infestations treated on 100 of 500 acres of 3 strawberry varieties in western Washington County. Light on one variety; light to moderate on other 2. Old and new growth infested and seemed most prevalent in first year fields. (Collins).

ORNAMENTALS

INSECTS

BAGWORM (Thyridopteryx ephemeraeformis) - MISSOURI - Hatched in southeast area May 10 (Hanning) and east-central area May 12 (DeWeese).

BEAN APHID (Aphis fabae) - PENNSYLVANIA - Adults and nymphs heavy on new growth in 25 percent of 200-square-foot plantation of Euonymus alatus at Johnstown, Cambria County. (Wolf, Wheeler).

FLETCHER SCALE (Lecanium fletcheri) - PENNSYLVANIA - Found on 50-foot yew hedge. Moderate to heavy populations destroyed several plants in Adams County. (Tetrault).

BROAD MITE (Polyphagotarsonemus latus) - MASSACHUSETTS - Heavy on blackeyes (Rudbeckia serotina) and other ornamentals in Middlesex County. Leaf curling injury serious. Much concern in eastern area. (Gentile).

SOUTHERN RED MITE (Oligonychus ilicis) - MASSACHUSETTS - Overwintered eggs all hatched; egg laying underway. Injury and leaf drop from late fall feeding noticeable on holly. (Tomlinson).

FOREST AND SHADE TREES

DISEASES

TIP BLIGHT OF PINE (Diplodia pinea) - WISCONSIN - Dead shoots of 1975 growth evident statewide. (WI Pest Sur.).

JACK PINE NEEDLE CAST (Davisomyella ampla) - WISCONSIN - Yellowing and casting of year-old needles of jack pine in central area. (WI Pest Sur.).

PINE NEEDLE RUST (Coleosporium asterum) - MINNESOTA - Found in Washington County on red pine. (MN Pest Rpt.).

INSECTS

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - MISSOURI - Light to moderate on 3 Christmas tree plantings in Adair County. Some trees unsaleable. Infestations not uniformly distributed. Larval feeding nearly completed. (Kearby). WISCONSIN - Eggs hatched May 11 in Dane County and about 2 weeks earlier in Walworth County. First and second-instar larvae skeletonized needles of Scotch, red, and jack pines; needles straw yellow. (WI Pest Sur.).

A SIRICID WASP (Eriotremex formosanus) - FLORIDA - Adult collected 5 miles south of Keaton, Taylor County, April 30, 1976. Collected and determined by E.E. Grissell. Specimen collected in flight along road edge next to cultivated pine forests. This is a new county record. Adult collected in swimming pool at Gainesville, Alachua County, May 5. (FL Coop. Sur.).

A PINE LOOPER (Lambdina pellucidaria) - DELAWARE - Adults very heavy in southwestern New Castle County pine forest. (Burbutis, Kelsey).

SPRUCE NEEDLEMINER (Taniva albolineana) - OREGON - Severely attacked blue spruce at Woodburn, Marion County. Mostly late instar larvae present; pupation just underway. (Westcott).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - INDIANA - Larval pupation underway in Johnson County. (Wade).

WHITE PINE APHID (Cinara strobi) - VIRGINIA - Heavy on eastern white pine at Blacksburg, Montgomery County. Most infested trees 10-15 feet tall with 3-20 large colonies on twigs. Each colony solidly covered 5-8 inches. (Weidhaas).

SPRUCE APHID (Elatobium abietinum) - OREGON - Severe blue spruce defoliation at Woodburn, Marion County. (Westcott).

AN APHID (Eulachnus agilis) - PENNSYLVANIA - Heavy populations killed some trees and seriously damaged others in plantation at Gettysburg, Adams County. (Tetrault).

COOLEY SPRUCE GALL APHID (Adelges cooleyi) - OREGON - Gall formation evident on blue spruce at Woodburn, Marion County. (Westcott).

EASTERN SPRUCE GALL APHID (Adelges abietis) - WISCONSIN - Egg hatch begun in Dane and Rock Counties. (WI Pest Sur.).

SPRING CANKERWORM (Paleacrita vernata) - MARYLAND - This species and Alsophila pometaria (fall cankerworm) defoliated 30-90 percent of 1,000 acres of chestnut and oak on South Mountain, Washington County. Feeding to continue for 14 days. (U. Md., Ent. Dept.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - WEST VIRGINIA - Larvae collected on Salix sp. (pussy willow) at St. Albans, Kanawha County, May 9, 1976. Collected and determined by C.C. Coffman. This is a new county record. (Coffman).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - WISCONSIN - Larvae in second instar in Dane County in 4 to 6-inch tents. In advanced sandy areas, about 25 percent of larvae in second instar, 50 percent third, and 25 percent fourth. (WI Pest Sur.). MAINE - Tent size increased and noticeable; infestation seems twice that of 1975. Cherry and apple trees, especially small ones, suffering severely and some kill can be expected. (Gall).

IMPORTED WILLOW LEAF BEETLE (Plagioder a versicolora) - VIRGINIA - Adults and larvae severely damaged willows at Independent City of Danville May 4. (Allen). MASSACHUSETTS - First adults of season in Hampshire County. (Mankowsky, Adams).

ELM LEAF BEETLE (Pyrrhalta luteola) - OKLAHOMA - Larvae hatched and feeding on Siberian elms in Payne County week ending May 7. (OK Coop. Sur.).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - TEXAS - Increased on livestock in Lee, Brazos, and Robertson Counties week ending May 7. (Cole). Current adult averages 100-300 per beef animal in Nueces, Goliad, and De Witt Counties. (Robinson, Rothrock). Ranged 25-100 per head on some cattle in Carson and Armstrong Counties. (Patrick). OKLAHOMA - Counts by county week ending May 7: Major averaged 600 per head, Payne and Noble 100 per head, Comanche moderate to heavy. (OK Coop. Sur.).

FACE FLY (Musca autumnalis) - ALABAMA - Heavily infested beef cattle in many Cherokee County herds. (Hall).

MOSQUITOES - UTAH - Annoying at Corinne, Box Elder County, and at Logan and Smithfield, Cache County. (Knowlton). WISCONSIN - Biting in La Crosse County. Many "breeding pools" in many wooded lowlands and marshy areas; cool weather slowed development. (WI Pest Sur.). MASSACHUSETTS - Culex restuans adults in New Jersey light trap at Hadley, Hampshire County. (Edman). NEW HAMPSHIRE - First Aedes spp. spring females biting in heavily wooded areas of Epping, Rockingham County, May 10. Adult emergence began May 12 from several spruce bog areas north of Twin Mountains, Coos County. (Burger).

BLACK FLIES - NEVADA - Simulium vittatum adults heavy in eastern section and adjacent areas of Las Vegas, Clark County. Severe on horses and dogs. (Hicks). NEW HAMPSHIRE - Spring populations of Prosimulium mixtum peaking throughout southern half of State. Simulium venustum females biting in scattered localities in Strafford and Rockingham Counties. P. mixtum adults first biting May 10 from Waterville Valley, Grafton County, and Twin Mountain, Coos County. Simulium venustum larvae developing rapidly in these localities; pupation began May 5-10. P. fuscum and P. mixtum especially annoying near Washington, Sullivan County, May 10 (average 20-25 adults buzzing overhead and biting). (Burger).

A MIDGE (Chironomus plumosus) - WISCONSIN - Heavy along west shore of Lake Winnebago at Oshkosh, Winnebago County. Larval swarms hovered over roadways and splattered many windshields at few sites. (WI Pest Sur.).

SHORTNOSED CATTLE LOUSE (Haematopinus eurysternus) - OKLAHOMA - Mainly this louse heavy on one herd each of beef cattle in Murray and Comanche Counties week ending May 7. (OK Coop. Sur.).

A REDUVIID BUG (Melanolestes picipes) - OKLAHOMA - Adult bit 2 people in home at Cordell, Washita County. Collected by E. Cleveland, April 27, 1976. Determined by D.C. Arnold. This is a new county record. (OK Coop. Sur.).

PACIFIC COAST TICK (Dermacentor occidentalis) - CALIFORNIA - Very heavy in El Dorado County. Counts of 10 ticks on one individual 1-5 on others, and up to 12 on dogs. Unusual for drought year. (CA Coop. Rpt.).

GULF COAST TICK (Amblyomma maculatum) - OKLAHOMA - Heavy in ears of cattle in Osage County week ending May 7; many ranchers treating. (OK Coop. Sur.).

AMERICAN DOG TICK (Dermacentor variabilis) - RHODE ISLAND - Bothersome statewide, heaviest in past 5 years in Providence County. (King et al.).

HOUSEHOLDS AND STRUCTURES

INSECTS

PAVEMENT ANT (Tetramorium caespitum) - NEVADA - Alates continued heavy in homes and other buildings in Reno and Sparks area of Washoe County. (NV Coop. Rpt.). DELAWARE - Pest in several homes in New Castle County during last 3 weeks of April. (Burbutis, Kelsey).

BENEFICIAL ORGANISMS & THEIR ENEMIES

DISEASES

CHALKBROOD (Ascosphaera apis) - INDIANA - This fungus infected hive of Apis mellifera (honey bee) in Carroll County. Found by C. Wade, May 8, 1976. Determined by same. This is a new State record. (Favinger).

INSECTS

A EULOPHID WASP (Tetrastichus julis) - Larvae recovered from Oulema melanopus (cereal leaf beetle) larvae in following States. INDIANA - Collected from Sparta Township, Dearborn County, by B. Sprote, May 5, 1976. Determined by cereal leaf beetle lab at Niles, Michigan. This is a new county record. OHIO - From Fairfield County field insectary in Hocking Township May 11 and Coshocton County field insectary in Bedford Township May 14. MARYLAND - From Clear Spring, Washington County, by W. Drosselmeyer, May 12, 1976. Determined by cereal leaf beetle lab at Niles. This is a new county record. (PPQ).

ICINEUMONID WASPS - MICHIGAN - Lemophagus curtus recovered from Oulema melanopus (cereal leaf beetle) larvae collected May 17 in Berrien County field insectary in Galien Township. Diaparsis spp., larval parasitoids of O. melanopus, taken in same area. (PPQ).

A MYMARID WASP (Anaphes flavipes) - Adults recovered from Oulema melanopus (cereal leaf beetle) eggs in following States. INDIANA - Collected from Hudson Township, La Porte County, May 5. OHIO - From Huntsburg Township, Geauga County, May 12 and Dearfield and Union Townships, Ross County, May 14. (PPQ).

A WEEVIL (Rhinoecyllus conicus) - MONTANA - Adults emerged and noted on musk thistle rosettes in Gallatin County. Averaged 2-3 per rosette in some areas; none in other areas. Adults expected to increase rapidly in next 14 days. (Jensen).

FEDERAL AND STATE PROGRAMS

DISEASES

RENIFORM NEMATODE (Rotylenchulus reniformis) - CALIFORNIA - April 15 ended host free period (6 months) against this nematode at Highland, San Bernardino County. Five years of negative samples needed to confirm eradication. (CA Coop. Rpt.).

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - INDIANA - Half-grown larvae trace in Jefferson County wheatfield. (Meyer). KENTUCKY - Average number of eggs (and of larvae) per square foot of oats by county: Bourbon 0.18 (0); Fleming 1.4 (0.3); Jefferson 1.4 (1.15); Lewis 3.65 (0.7); Nicholas 1.15 (0.55); Shelby 0.59 (0.25); and Lewis heaviest of all with 6.6 (1.9) in one field. (Sperka). OHIO - Adults active in oats and wheat statewide. Counts and damage very light. Adults averaged 2 per 100 sweeps except in Perry County oatfield with average of 160 per 100 sweeps. Eggs averaged 0.6 and first instars 0.8 per square foot on Portage County oats. (Lewis, Prentice).

WEST VIRGINIA - Cereal leaf beetle counts per square foot of oats by county: Tucker averaged 0.5 egg; Randolph averaged one egg; Pendleton 10 third-instar larvae and 3 eggs on wheat, and 6 second-instar larvae and 15 eggs on oats; Morgan 11 second instars and 8 eggs; Hardy 7 second instars and 10 eggs; Greenbrier 2 second and third instars on wheat; Monroe averaged 18 second instars and 35 eggs. (Tustin et al.). VIRGINIA - Collected on wheat at Moseley, Powhatan County, and at Oilville, Goochland County, by C.R. Whitley, May 12 and 13, 1976, respectively. Collected on oats at Stuart, Patrick County, by J.C. Callahan, May 6 and at Hillsville, Carroll County, by J.C. Callahan and C.L. Stewart, May 13. Collected on barley at Templeman, Westmoreland County, by V. Hoyos, May 11. All determined by R.E. White. These are all new county records. (PPQ). MARYLAND - Subeconomic, larvae 30 and adults 3 per 100 sweeps, in 30 acres of wheat in Howard County. (U. Md., Ent. Dept.). PENNSYLVANIA - Counts by county: Perry 194-314 eggs, 19-26 larvae per 2 row feet of oats, 65-149 adults per 20 sweeps, up to 3 percent damage; central counties 0-48 eggs, 0-3 larvae per 2 foot row of oats, 2-29 adults per 20 sweeps, adult damage trace; Butler 0-4 eggs per 2 foot row of wheat and 7-55 adults per 20 sweeps. (Lilley et al.). NEW YORK - Adults active on wheat and oats. Adult feeding and egg laying noticeable on 4-inch oats in Tompkins County. (Willson).

CITRUS WHITEFLY (Dialeurodes citri) - CALIFORNIA - Widespread infestations at Sacramento, Sacramento County, caused concern to homeowners due to mass infestations on citrus and gardenia. Many gardenias removed. (CA Coop. Rpt.).

EUROPEAN PINE SHOOT MOTH (Rhyaciona buoliana) - OREGON - Pupated at Hermiston, Umatilla County. Pupae 6 in 12 infested twigs picked at random in 2 locations. (Penrose).

GRASSHOPPERS - UTAH - Large numbers hatched in some lots and lawns in Grand and San Juan Counties. (Roberts). MONTANA - Hatched in Blaine County. Nymphs up to 0.25 inch long. (Picard). NORTH DAKOTA - Egg development in McKenzie County: 39 percent coagulated, 52 percent eyespot, and 9 percent segmented. (Brandvik).

GYPSY MOTH (Lymantria dispar) - PENNSYLVANIA - Egg hatch 50 percent in Barry and Hegins Townships, Schuylkill County, by May 2. (Bergner). NEW YORK - Egg hatch 50 percent May 6 on beech and maple in Oneida County. This campsite treated June 1974. (Brice).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Heavy in 40 acres of bluegrass sod at Darlington, Harford County. Sprays withheld because larvae to pupate in 14 days. (U. Md., Ent. Dept.).

MORMON CRICKET (Anabrus simplex) - NEVADA - Percent of nymphs by instar: Second 10, third 80, and fourth 10. Up to 35 per square yard on 6,000 acres of rangeland in Upper Dry Creek, Bailey Mountain area, Sulfur Spring Range, Elko County; some banding occurred. (Kail).

WHITEFRINGED BEETLES (Graphognathus spp.) - GEORGIA - Larvae tunneling in roots of nursery pecan seedlings, significantly reduced stands, in Dougherty County week ending May 8. (Hays, Ellis). ALABAMA - Larvae destroyed 20-acre field of Covington County corn. Full-grown larvae, 1-12, destroyed 60 percent of 40-acre field of Monroe County corn. (Pike et al.).

WEEDS

CAMELTHORN (Alhagi pseudalhagi) - CALIFORNIA - Detection survey in grain crops discovered first infestation in Tulare County in 20+ years. Infested 0.2 acre on 2.0 acres; weed not yet in flower; eradication initiated. Infestation located in same township and range as previous find many years ago. (CA Coop. Rpt.).

HAWAII PEST REPORT

General Vegetables - CARMINE SPIDER MITE (Tetranychus cinnabarinus) continued increase at Waianae, Oahu. Moderate infestations (10-20 per square inch on 50-75 percent of leaves) and damage on water-melon (5 acres), eggplant (one acre), and pole beans (0.5 acre). Heavier on older leaves (10-20 percent of foliage). Infestations and damage by LEAFMINER FLIES (Liriomyza spp.) moderate on water-melon (5 acres) and light on eggplant (one acre), tomato (0.25 acre), and pole beans (0.5 acre) at Waianae. (Nakahara).

Ornamentals - Moderate counts (30-50 percent of blossoms infested with nymphs and adults) and light damage by WESTERN FLOWER THRIPS (Frankliniella occidentalis) in 2 acres of chrysanthemums (regularly sprayed) at Waianae. (Nakahara).

Beneficial Insects - A GALL FLY (Procecidochares alani) light on Hamakua pamakani in Honouliuli Forest Reserve (Palēhua 2,700 feet elevation) and Mokuleia Forest Reserve (2,000 feet elevation), Oahu. Apparently established at these 2 new sites. Released at Palehua November 1974. Other releases on Oahu at Nuuanu and Tantalus. (Costales et al.). Parasitism by an APHELINID WASP (Encarsia sp.) and an ENCYRTID WASP (Prospaltella smithi) continued heavy 75 and 86 percent in January and February, respectively, on Aleurocanthus spiniferus. Orange spiny whitefly generally light (18 percent infested plants) on rose and citrus at 4 sites at Kapahulu, Oahu. (Otsuka).

DETECTION

NEW STATE RECORD

DISEASES

CHALKBROOD (Ascosphaera apis) - INDIANA - Carroll County. (p. 242).

NEW COUNTY RECORDS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - VIRGINIA - Powhatan, Goochland, Patrick, Carroll, Westmoreland (p. 243).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Dearborn; MARYLAND - Washington (p. 242).

FOREST TENT CATERPILLAR (Malacosoma disstria) - WEST VIRGINIA - Kanawha (p. 240).

A REDUVID BUG (Melanolestes picipes) - OKLAHOMA - Washita (p. 241).

A SIRICID WASP (Eriotremex formosanus) - FLORIDA - Taylor (p. 239).

YELLOWMARGINED LEAF BEETLE (Microtheca ochroloma) - FLORIDA - Columbia (p. 236).

LIGHT TRAP COLLECTIONS

[illegible]

WEATHER OF THE WEEK ENDING MAY 16

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Forecasters blamed a cold front in the upper Mississippi Valley and southern Great Plains for cool rainy weather across the central United States and much of the Southeast. In the Desert Southwest, however, temperatures headed in the opposite direction as warm air spread along the California coast. Heavy storms associated with the eastern front soaked portions of the Midwest and East with more than 2 inches of rain and spawned damaging tornadoes, especially in the lower Mississippi Valley. An eastward moving storm system closed out the week by producing a 200-mile wide band of precipitation from Florida into the Ohio Valley and central Plains.

TEMPERATURE AND PRECIPITATION: After favoring the East with fair weekend weather, Monday's high pressure system brought cool air to some eastern areas. Cape Hatteras, North Carolina, sank to a record low 43 degrees. A cool flow also circulated across the northern Great Plains and into the upper Mississippi Valley and Great Lakes region. Meantime, high temperatures warmed the Desert Southwest pushing into the mid 90's in parts of Arizona and California where 97 degrees pegged Needles the Nation's hot spot. Throughout the day, showers and thundershowers focused on the south-central United States. In the evening, though, much of the precipitation pulled up stakes in the central and lower Mississippi Valley and abandoned the coasts of the southeast States. Some showers continued in the Great Lakes region and from the northern Rockies westward to the Cascades. Showers and thundershowers from the Appalachians to the Atlantic coast and over portions of Florida and Louisiana made the East an exception to Tuesday's widespread fair weather across much of the Nation. A few showers and thundershowers also blemished the daytime skies in the northern Rockies. In the early afternoon, locally heavy rain storms occurred in parts of Texas, Nebraska, and Colorado. Mild temperatures from the warm stable air that spread along the California coast contrasted chilly morning readings in the 30's and 40's from Upper Great Lakes region through the northern half of the Plains, across the Rockies, and in the Pacific Northwest.

At midweek, a cold front signaling an invasion of colder air penetrated the upper and middle Mississippi Valley regions and the southern Great Plains. Heralding the arrival of the front, a bank of scattered showers and thunderstorms stretched from South Dakota and Minnesota through eastern Kansas and southwest Oklahoma into Texas. During the day, the energetic front produced severe weather in some areas. Locally heavy rains and hail pounded a 6-State region Mississippi, Louisiana, and Alabama took the worst beating in Thursday's barrage of severe weather in the central United States. Slowing, the frontal system generated a line of eastward moving thunderstorms that spawned damaging tornadoes in the lower Mississippi Valley. Meanwhile, warm humid air from the gulf triggered scattered thundershowers from the gulf coast into the Ohio Valley. A Pacific Northwest cold front brought showers and thundershowers to Idaho and western Montana. Nationwide, the only area of clear skies ranged from California through the southern Intermountain region and the southern Rockies.

Friday's precipitation pattern traced showers moving slowly north-eastward from the gulf coast toward Indiana. Throughout southeastern United States a near stationary front plus a low over Arkansas created severe weather in the gulf and South Atlantic States. Forecasters cited 18 tornadoes in the area but high wind associated with severe thunderstorms caused the most damage. Locally heavy activity drenched Macon, Georgia, with nearly 4 inches of rain in 6 hours. Mississippi claimed the highest incidence of hail. Cooler air moving throughout the Northwest slashed as much as 30 degrees from the Friday afternoon temperatures compared with Thursday's readings for same time of day. Saturday morning seemed to promise a rainy weekend for much of the Southeast. Flash flood watches were posted in response to a band of rain and thunderstorms - nearly 200 miles wide - that ranged from Florida through the middle Ohio Valley and westward across Iowa and Missouri into Kansas. Colliding with moist air as it headed up the Mississippi Valley, the slow moving storm system touched off severe thunderstorms that extended to the southern Atlantic coast. Most of the severe storms struck Illinois, Kentucky, and the Carolinas spawning tornadoes and, in places, golf ball-size hail. The pattern of showers and thunderstorms dominating the weekend weather map progressed to the North and East on Sunday. An early morning survey showed an almost continuous band of moisture from northern Missouri into the upper Great Lakes and from the lower Lakes into the central Atlantic States and southern Florida. For the third day in a row, the Midwest and East received most of the Nation's precipitation thanks to a low pressure center and eastward-bound frontal system. Minor flooding plagued areas from Texas to Iowa to the east coast.

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK MID-MAY TO MID-JUNE

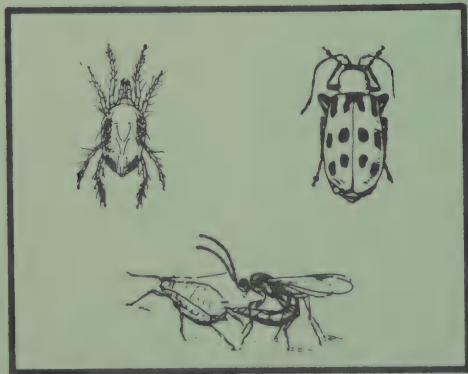
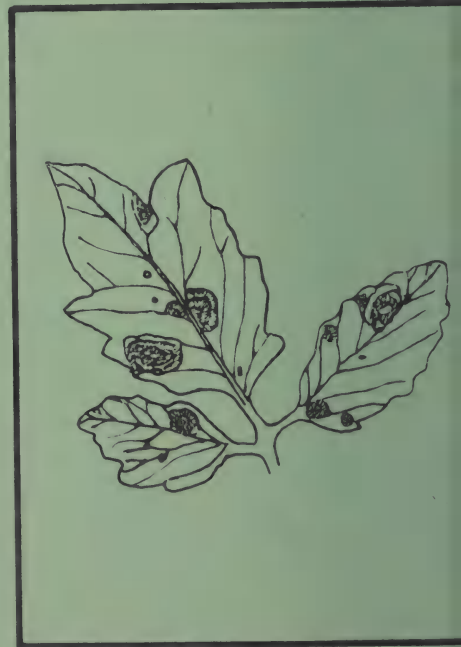
The National Weather Service's 30-day Outlook for mid-May to mid-June is for temperatures to average below seasonal normals from the central and southern Great Plains, eastward to central and southern portions of the Appalachian Mountains, and also in most of the south Atlantic Coast States. Above normal temperatures are indicated for the West Coast States and western portions of the Great Basin. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median amount in central portions of the Intermountain region, the Rocky Mountains, over the central Great Plains, and most areas east of the Mississippi River. Elsewhere less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

UNITED STATES DEPARTMENT OF AGRICULTURE
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May 28, 1976

Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
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U.S. Department of Agriculture
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Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ALFALFA WEEVIL damage heavy in Texas, South Dakota, Iowa, and Ohio. (pp. 254-255).

PECAN PHYLLOXERA very heavy in Texas and Alabama. (p. 260).

HORN FLY over 200 per head in Texas, Mississippi, and Florida. (pp. 262-263).

MORMON CRICKET nymphs up to 50 per square foot in Idaho. (p. 265).

First SCREWORM case in New Mexico. (p. 265).

Detection

GROUNDNUT BRUCHID is new for Puerto Rico. (p. 261).

For new county records, see page 265.

Special Reports

Number of Pheromone Traps Placed for Adult Gypsy Moth in 1975. (pp. 258-259).

Reports in this issue are for the week ending May 21 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - NEBRASKA - Larvae of this species and of Feltia subgothica (dingy cutworm) moved into sugar beets from field margins in Scotts Bluff and Morrill Counties. Damaged 50-150 feet of outside rows. (Hagen).

ARMYWORM (Pseudaletia unipuncta) - ALABAMA - Damaged 2 large wheat fields in Limestone and Madison Counties. Controls to be applied. (Eich et al.). MISSOURI - Larvae 4-8 per square foot of small grains in southeast area. Up to 6.5 on barley in southwest area. (Munson). OHIO - Overwintered adults increased each night in blacklight traps. Larvae of this species and Spodoptera ornithogalli (yellowstriped armyworm) damaged 10 percent of 2 no-till corn fields planted in sod in Brown County. (Rings, Lewis). VIRGINIA - Problem on small grains in Northumberland County and in City of Virginia Beach. Damage to increase next 14-21 days. (Allen). MARYLAND - Increased. Economic levels of one plus per row foot of some wheat in Caroline and upper Dorchester Counties. (U. Md., Ent. Dept.). NEW YORK - As of May 18, accumulated catch of 568 adults taken compared with 90 and 37 in years 1974 and 1975, respectively, in Ontario County. (Chapman et al.). MASSACHUSETTS - First adult in light traps in cranberry bog in Plymouth County. (Tomlinson).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Ranged 0-100 per sweeps of oats in south area, heaviest in southern Rock County field. (WI Pest Sur.). MINNESOTA - Ranged 2-8 per 100 sweeps of winter wheat in Goodhue County. (MN Pest Rpt.). NORTH DAKOTA - Spring migrants averaged 2.5 per 100 sweeps of barley in Richland County. Averaged fewer than one per 100 sweeps in rye. (Scholl).

BEE T LEAFHOPPER (Circulifer tenellus) - NEVADA - Averaged one per 6 sweeps on 5 acres of seedling tomatoes in Moapa Valley, Clark County. (LeBas).

CORN EARWORM (Heliothis zea) - TEXAS - Third to fourth-instar larvae on 60 percent of corn in tassel stage on 450 acres in Bee County. (Robinson, Rothrock).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Ranged 1-5 per blooming sorghum head south of Brownsville, Cameron County, up the river to south of Alamo and north to near Hargill, Hidalgo County. Some fields treated. Ranged zero to fewer than one per head elsewhere in Rio Grande Valley. (Norman et al.).

GREENBUG (Schizaphis graminum) - ARKANSAS - Light in few grain sorghum fields in northeast area; occasional field treated. (Boyer). TEXAS - Light on sorghum in many gulf coast fields, throughout most of Uvalde, Uvalde County, and in Collin and Hunt Counties. This and Sipha flava (yellow sugarcane aphid) ranged one to 15-20 per plant mostly on booting or heading sorghum in lower Rio Grande Valley. (Robinson et al.).

POTATO LEAFHOPPER (Empoasca fabae) - PENNSYLVANIA - First adults in alfalfa field May 10 and in light traps May 13-15 in Centre County. (Byers, Shetlar). OHIO - First adults of season on alfalfa in Clark County May 19. (Lewis). WISCONSIN - In Sauk and Dodge Counties. Counts of 4 per 100 sweeps in Sauk County alfalfa field. (WI Pest Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Ranged 0-32 per 100 sweeps of alfalfa in southern half of State. (WI Pest Sur.). NORTH DAKOTA - First of season on alfalfa in Richland County. (Scholl).

CORN, SORGHUM, SUGARCANE

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - First adults of season in Dixon County. (Witkowski). ILLINOIS - Development slowed by cool, wet weather. Adults continued to emerge in south area. Pupation reached 36 and 48 percent, respectively, in central and north areas. (Sur. Bull.). INDIANA - First adults of season in Lawrence and Randolph County blacklight traps. (Sillings). OHIO - First adult of season in blacklight trap at Wooster, Wayne County, May 16, earliest of last 10 years. (Rings). NEW YORK - First light trap catch of adults May 18 in Ontario County. (Chapman, Lienk).

BLACK CUTWORM (Agrotis ipsilon) - MISSOURI - Moderate to heavy on minimum-tilled corn in central area. Stand loss of 5-20 percent. (Munson). ILLINOIS - Continued to damage corn in southwest and west areas. Many larvae over half grown. Some replanting. (Sur. Bull.). INDIANA - Fourth to fifth-instar larvae on grain corn in Clinton, Lawrence, and Dubois Counties. Generally cut one percent of plants in spots in 2 Clinton County fields and 15 percent in 45 of 60 acres in Montgomery County field. (Anderson et al.). NORTH CAROLINA - Cut 5 percent of corn plants in 4 of 10 Piedmont fields in Harnett, Lee, Montgomery, and Chatham Counties. (Hunt). MARYLAND - Above normal activity on lower Eastern Shore: 60-acre corn field in Dorchester County needed replanting. (U. Md., Ent. Dept.).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Larvae heavy; damaged 4 acres of unsprayed sweet corn few miles northwest of Gainesville, Alachua County. Adults laying eggs on late-planted field corn at Hastings, St. Johns County. Treatments needed. (FL Coop. Sur.).

SMALL GRAINS

DISEASES

LEAF RUST OF WHEAT (Puccinia recondita var. tritici) - KANSAS - Slow buildup on wheat. Lightly infected up to 30 percent of plants in southwest area. Trace in Franklin, Geary, Shawnee, Barber, Douglas, Pottawatomie, and Wabaunsee Counties. (Sim).

CROWN RUST (Puccinia coronata) - WISCONSIN - Aecia on buckthorn in Rock and Dane Counties. (WI Pest Sur.).

LOOSE SMUT (Ustilago nuda) - KANSAS - Statewide on wheat. Percent infection in fields surveyed by county: Shawnee 5-6, Leavenworth 1-2. (Sim).

POWDERY MILDEW OF WHEAT (Erysiphe graminis var. tritici) - KANSAS - Percent of infected wheat by county: Pottawatomie 40, Riley 60, Brown 75, Douglas 60, Shawnee 90, and Geary trace. (Sim). WISCONSIN - Cottony growth on winter wheat in Columbia and Racine Counties. Thick stands and lodging contributed to mildew development in low areas. (WI Pest Sur.).

SPECKLED LEAF BLOTCH (Septoria tritici) - KANSAS - Still widespread statewide. Percent of wheat infected by county: Pottawatomie 80-100, Nemaha 90-100, Brown 100, Leavenworth 100, Riley 100, Shawnee 20-100, Geary 100, and Douglas 100. Prevalent in all fields in Kiowa, Pawnee, and McPherson Counties. Moderate in Barber County. Heavy in some fields in Marion County where infected flag leaves present in some fields. (Sim).

CEPHALOSPORIUM STRIPE OF WHEAT (Cephalosporium gramineum) - KANSAS - Severe on some wheat in Marion, McPherson, Harvey, and Sedgwick Counties; some heads turned white. Affected 40 percent of barley in Nemaha County field. (Sim).

TAKE-ALL (Gaumannomyces graminis) - KANSAS - Percent of wheat infected by county: Shawnee 15, Allen 10. Light in McPherson County. Infected entire field in Marion County. (Sim).

BARLEY YELLOW DWARF VIRUS - KANSAS - Percent of infected wheat by county: Riley 5-60, Brown trace, Pottawatomie 30, Nemaha 15-20, Geary 60, Shawnee 20-60; severely infected some fields in Barber County. Affected 30 percent of oats in Douglas County field and 20 percent of barley in Nemaha County field. (Sim).

WHEAT STREAK MOSAIC VIRUS - KANSAS - In wheat in scattered areas of Kiowa, Pratt, and Pawnee Counties. Severe in few fields in Pratt and Pawnee Counties. (Sim).

INSECTS

ENGLISH GRAIN APHID (Macrosiphum avenae) - MISSOURI - Mainly this species moderate to heavy on wheat in east-central, northeast, north-central, central, and west-central areas. (Munson).

BARLEY THRIPS (Limothrips denticornis) - NORTH DAKOTA - First of season on rye ranged 40-100 per 100 sweeps. (Scholl).

TURF, PASTURES, RANGELAND

INSECTS

A GRASS BUG (Labops hesperius) - UTAH - Damaged large areas of planted grasses on rangelands in Diamond Fork Canyon, Utah County. Development 90 percent winged on warm slopes, 40 percent still nymphs in one area, and 70 percent still immatures in moist, cool ravine. (Haws, Knowlton). Damaged areas of Iron County. (Esplin). WYOMING - Counts of 60 per square yard on crested wheatgrass in Laramie County. (Hardy et al.). SOUTH DAKOTA - Up to 30 per square foot of crested wheatgrass in Bennett and Fall River Counties; damaged roadsides and pastures where no controls applied. (Walgenbach).

WHITE GRUBS (*Phyllophaga* spp.) - TEXAS - Severe damage to lawns and gardens in Oldham and Sherman Counties. Heavy counts in Mitchell County. (Patrick, Wilson).

A SOD WEBWORM (*Crambus trisectus*) - MARYLAND - First flights of season in Montgomery and Caroline Counties; egg laying underway. Above normal populations expected this season. (U. Md., Ent. Dept.).

FORAGE LEGUMES

DISEASES

SPRING BLACK STEM (*Phoma medicaginis*) - KANSAS - Percent of alfalfa plants infected (and degree of infection) by county: Pottawatomie 100 (moderate), Nemaha 100 (light to moderate), Brown 100 (moderate), Douglas 50 (light), and Lincoln severe enough in one field to kill stems. (Sim).

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - NEVADA - Larvae per sweep of hay alfalfa by county: Lyon all instars up to 18 per sweep in Mason Valley; Pershing averaged 2 at Lovelock, except for one field with averages of 20-25 per sweep; Churchill averaged 2 at Fallon. (Hilbig et al.). TEXAS - Most alfalfa treated in pan-handle; 25-75 weevils per square foot damaged 30-100 percent of tips. Larvae averaged 5 per square foot in Bailey County field. (Patrick, Morrison). NEBRASKA - First cutting of many alfalfa fields in southeast area; pupation well underway. Averages per 100 sweeps (and average percent of tip feeding) by county: Otoe 1,098.8 larvae, 11.4 adults, (8.6); Dawson 5.9 larvae in 16 fields, some cutting (7.5); Merrick 352 first and second instars mostly, 16 adults; Wayne, Madison, Holt, Cedar, and Cuming 167 larvae, 4 adults, (5) in 9 fields. (Keith et al.). SOUTH DAKOTA - Feeding began in southeast area. Ranged 0-800 per 100 sweeps and up to 75 percent leaf feeding by larvae and adults in some fields in Yankton County. Most larvae in first and second instars with few third instars. Total of 1,000 acres sprayed; some infested fields cut early. (Walgenbach).

IOWA - Alfalfa weevil continued damage across southern two-thirds of State. First-instar larvae still present in Ringgold County on 17-inch alfalfa. Treatments applied. Severe damage to alfalfa by second and third instars in Ida County. (DeWitt). WISCONSIN - Light damage on alfalfa in southeast area; one larva per sweep. Larvae 0-60 per 100 sweeps in other south areas. First hatch of spring eggs May 14-17 at Arlington, Columbia County. (WI Pest Sur.). INDIANA - Some southern district alfalfa still required treatment following harvest. One field averaged 5 larvae per crown; regrowth badly damaged. Still damaging untreated fields north of U.S. Highway 30. (Moriyama et al.). OHIO - Larvae at or past peak on forage. Pupation underway as far north as Wayne County; new adults in southern half of State. Larvae per 100 sweeps (and percent of damaged tips) by county: Lucas 77 (10) and 375 (50), Wayne 1,128 (95), Clark 1,353 (100), Fayette 154 (20) and 458 (100), Clinton 320 (75) and 625 (100), Brown 520 (60), Adams 44 (100 on old growth, zero on new growth). (Lewis).

VIRGINIA - Alfalfa weevil infested 65 percent of tips in 2 forage fields (20 acres) in Culpeper County. Average estimated defoliation 22 percent. Most fields treated. Two fields exceeded recommended treatment threshold. (Allen). MARYLAND - Pupation well advanced. Some adults on second growth of alfalfa. (U. Md., Ent. Dept.). PENNSYLVANIA - Adults 12 and larvae 4 per 20 sweeps in 14-inch stand May 20 in Centre County. (Shetlar). VERMONT - Adults one per 5 sweeps of alfalfa at Pawlet, Rutland County; early instars feeding on tips. (MacCollom).

CLOVER ROOT CURCULIO (Sitona hispidulus) - MONTANA - Destroyed 70 acres of sainfoin in northern Park County. Adults very heavy; larvae severely damaged roots of nearly all plants. Many plants dead; rest severely stunted. (Jensen).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEVADA - Mostly this species and A. pisum (pea aphid) averaged 12 per sweep of hay alfalfa in Mason Valley, Lyon County. Pea aphid averaged 13 per sweep on hay alfalfa at Lovelock, Pershing County. (Wilcox).

MEADOW SPITTLEBUG (Philaenus spumarius) - MISSOURI - Moderate to heavy on alfalfa and red clover in northeast and north-central area. Nymphs per stem up to 5 in alfalfa and up to 15 in red clover. Controls applied. (Munson). INDIANA - New adults, sometimes very heavy, on west-central, southwest, and south-central alfalfa. (Meyer). VERMONT - First hatch on alfalfa at Pawlet, Rutland County. (MacCollom).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - Eggs 1-60 (averaged 20) per stem and adults 48-98 on 11 to 18-inch alfalfa in Centre County May 10. Mines noticeable. (Byers). NEW HAMPSHIRE - Laying eggs on alfalfa in south area May 10-15, about 7 days earlier than usual. (Bowman).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Overwintered adults laid eggs on cotton in lower Rio Grande Valley; punctured 0-32 squares per 100 plants. Counts by county: Hunt 60 in one trap; Bell and Falls light on seedlings; Williamson and Milam moderate to heavy on most cotton; Navarro 20 in one trap near Powell and 8 from Frost area, up to 20 per pheromone trap; Rolling Plains continued increase in Leggett traps; Knox 246 with 214 captured May 11; and Baylor 14 on one trap and 8 on another. (Norman et al.). ALABAMA - Adults 2 in 25 sex-lure traps past 15 days at Allsboro, Colbert County. (Gamble et al.).

BOLLWORM (Heliothis zea) - TEXAS - Egg laying increased on cotton in Lower Rio Grande Valley. Eggs up to 10 percent in few fields. Larvae 0-5 percent in most fields. Damaged green squares 0-14 percent. Adults increased to almost 6 per night in light traps at Weslaco, Hidalgo County. (Deer, Norman).

BLACK CUTWORM (Agrotis ipsilon) - MISSISSIPPI - Ranged 1,000-3,000 per acre on 250 acres of seedling cotton in Tallahatchie County; 4,000 per acre on 25 acres in Panola County. (Townsend).

THRIPS (Franklinella spp.) - MISSISSIPPI - Averages of 2-3 per plant on 8,000 acres of seedling cotton in Tallahatchie and Panola Counties. Ranged 1-2 per plant in Coahoma County. (Townsend). ALABAMA - F. fusca (tobacco thrips) heavy; damaged 50 percent or more of cotton in Colbert, Lauderdale, and Limestone Counties. Some controls applied. (Eich et al.).

COTTON APHID (Aphis gossypii) - TEXAS - Light to heavy on cotton in lower Rio Grande Valley. Reduced by heavy beneficial insect and spider predation. Still problem in some late fields in gulf coast area. Increased to moderate levels in some fields in Castro and Lamb Counties probably due to weather. In many fields in Collin and Hunt Counties; some damage to leaf buds. (Deer et al.). ALABAMA - Very heavy on 1 to 3-leaf cotton in several hundred acres in Limestone County. Controls applied. (Eich et al.).

POTATOES, TOMATOES, PEPPERS

INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - WASHINGTON - Eggs and adults on 2-acre potato planting at Wapato, Yakima County. (Wittie). MARYLAND - Larvae 5-10 and adults 2 per potato plant at Stockton, Worcester County. (U. Md., Ent. Dept.). MAINE - First of season at Orono, Penobscot County. (Gall).

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH CAROLINA - Eggs on potatoes in northeast Coastal Plain. Larval feeding in some fields. (Irish Potato Pest Alert #7).

BEANS AND PEAS

INSECTS

BEAN LEAF BEETLE (Cerotoma trifurcata) - ALABAMA - Damaged peas and beans in gardens in Chilton and all north counties. (Wyatt et al.).

COLE CROPS

INSECTS

IMPORTED CABBAGEWORM (Pieris rapae) - TEXAS - Continued problem on cabbage and broccoli in South-central area. (Cole).

CABBAGE MAGGOT (Hylemya brassicae) - NEW YORK - First catch of season of adults in baited cone traps May 17 in Yates County. (Eckenrode, Watve).

GENERAL VEGETABLES

DISEASES

POWDERY MILDEW OF CARROT (Erysiphe polygoni) - CALIFORNIA - Widespread on carrots in Imperial County. (CA Coop. Rpt.).

INSECTS

VARIEGATED CUTWORM (Peridroma saucia) - OHIO - First adult of season May 14 at Wooster, Wayne County. Most important cutworm infesting vegetables. (Rings).

ONION THRIPS (Thrips tabaci) - CALIFORNIA - Several commercial onion fields required treatment in Imperial County in May. This species and Frankliniella occidentalis (western flower thrips) damaged green onions at Bakersfield, Kern County. (CA Coop. Rpt.).

DECIDUOUS FRUITS AND NUTS

DISEASES

FIRE BLIGHT (Erwinia amylovora) - MICHIGAN - Conditions generally unfavorable week of May 14. Heavy carryover of inoculum; controls needed in problem fruit blocks. (Jones, Ehret). NEW JERSEY - Very severe in several apple blocks. Most of infection after bloom and generally due to aphid transmission. (Ins.-Dis. Newsltr.).

APPLE SCAB (Venturia inaequalis) - MICHIGAN - Primary lesions appeared at East Lansing, Ingham County, and southwest area May 13. (Jones, Ehret). CONNECTICUT - Infection periods in most of State May 12 and 16-18. Scab spots easy to find on unsprayed apple trees statewide. About 50-60 percent of overwintered spores discharged. (Kollas).

BLACK KNOT (Dibotryon morbosum) - MICHIGAN - Ascospores detected periodically beginning with buds in green tip stage week ending May 14. (Jones, Ehret).

BROWN ROT (Monilinia fructicola) - MICHIGAN - Apothecia found in tart cherry orchard near Belding, Ionia County, May 7 following 2 days of heavy rain. Numbers of apothecia high in 1975 unharvested area. Overwintered on fruit stems remaining from 1975. Both sources of inoculum will pose problem to late bloom if weather favorable. (Jones, Ehret).

INSECTS

CODLING MOTH (Laspeyresia pomonella) - UTAH - Conspicuous flight at north Logan, Cache County, night of May 13-14. (Davis). MICHIGAN - First adult emergence detected by pheromone trap catches near Eau Claire and Berrien Springs, Berrien County, May 10. Adults in pheromone traps in many commercial apple blocks May 13. (Brunner). NEW YORK - First adults of season in pheromone sticky trap May 10 in Ulster County. (Weires). MASSACHUSETTS - Active in apple orchards. Several adults in pheromone traps in Hampshire County. (Prokopy).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - KENTUCKY - Heavy on dwarf nectarines in Monroe County. (Scheibner). CONNECTICUT - Injury on peaches. (Kollas).

TORTRICID MOTHS (Platynota spp.) - MICHIGAN - First adult emergence of P. flavedana in pheromone traps near Eau Claire, Berrien County, May 10 and of P. idaeusalis in this county May 12. (Brunner).

FRUITTREE LEAFROLLER (Archips argyrospilus) - NEVADA - Larvae heavy on home orchard pear and apple trees at Reno, Washoe County. (Ting).

Map of the United States showing the distribution of 1950 Census tracts by region. The map is divided into four regions: Northeast, Southeast, South-central, and West. Each tract is labeled with its unique number (e.g., N-100, C-100, P-100). A legend at the bottom right explains the numbering system: N for nonwhite population, C for white population, and P for total population. A table at the bottom left provides regional totals for the number of tracts and the total population in each region.

Region	Number of Tracts	Total Population
Northeast	60,187	13,208
Southeast	13,208	8,669
South-central	8,669	6,844
West	6,844	6,844

Northeast	60,187
Southeast	13,258
South-central	8,669
West	6,844

National Campers and Hikers Association	7,947
Other Cooperators	37,780
Plant Protection and Quarantine Programs	43,231

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Coop. Plant Pest Rpt.
1(21):258-259, 1976

A GRACILLARIID MOTH (Lithocolletis blancardella) - MICHIGAN - Eggs on 80 and 30 percent of leaves, respectively, at Belding, Ionia County, and Sparta, Kent County, May 11. Hatch started May 31 and reached 10 percent. Hatch should be half completed by May 17-21 with continued warm weather. (Brunner).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - ALABAMA - Adults laying eggs on limbs of cherry and other host trees throughout north area. Egg masses 2-15 on many black cherry trees along field borders. (Freeman et al.).

PLUM CURCULIO (Conotrachelus nenuphar) - OHIO - Of 73 randomly collected plums in Wayne County, 82.2 percent had egg laying scars (up to 4 scars per plum), 4.1 percent had feeding scars only, and 13.7 percent were undamaged. Fruit size averaged 19.8 mm in diameter. Feeding and egg laying damage to apples on unsprayed trees averaged 4.7 percent. (Levine). CONNECTICUT - Scars on developing apples at New Haven and Bethany, New Haven County, and Storrs, Tolland County. (Kollas). MASSACHUSETTS - Adults out and active in apple orchards in Hampshire County. (Hauschild, Prokopy).

PEAR PSYLLA (Psylla pyricola) - MICHIGAN - Egg hatch completed in Berrien County and about 80 percent complete in Kent and surrounding counties. (Shane et al.).

PECAN NUT CASEBEARER (Acrobasis nuxvorella) - TEXAS - Egg laying continued spotty in Gonzales and De Witt Counties. Eggs on 4 percent of 2 orchards. Only one nutlet penetrated by larvae. Eggs and less than 2 percent of pecan nutlets in Uvalde County. Few pecans punctured from early larvae. All infestations at one percent level. (Stewart). Sprays applied in south-central area. White or recently deposited eggs as far south as Harris County; generation will be spread over long period. New adults emerged in Young County May 15-16. Some tree flagging in Menard, Llano, and Sterling Counties; heavy in Menard. (Cole et al.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Second generation began in Uvalde County. Small webs found in pecan trees. Egg masses and larvae collected from pecans in Guadalupe, Gonzales, Colorado, and Fayette Counties. (Stewart, Cole).

PECAN PHYLLOXERA (Phylloxera devastatrix) - TEXAS - Very heavy past 14 days in Bell, Coryell, McLennan, Erath, Bosque, and Hill Counties. Moderate on several pecan trees in Wilbarger County. Very heavy in McCulloch County. Very heavy in south-central area. (Hoelscher et al.). ALABAMA - Damaged pecans in several orchards in west area. (Strother et al.).

PECAN LEAF PHYLLOXERA (Phylloxera notabilis) - FLORIDA - Heavy on untreated pecans in Monticello area. (FL Coop. Sur.). ALABAMA - Heavy in few pecan trees throughout Marengo County. (Yates).

OTHER TROP. & SUBTROP. FRUITS

INSECTS

GROUNDNUT BRUCHID (Caryedon serratus (Olivier)) - PUERTO RICO - One adult and one larva found in 25 boxes of Tamarindus indica (tamarind) pods to be exported. Found by H. Murphy, May 21, 1976. Tamarind grown at Coamo, Puerto Rico. Tentatively determined by C.E. Miller; confirmed by J.M. Kingsolver. No previous records in Puerto Rico or the United States. For details on this species, see "Insects Not Known to Occur in the Continental United States" Number 187. This is a new record for Puerto Rico. (PPQ).

SMALL FRUITS

INSECTS

GRAPE FLEA BEETLE (Altica chalybea) - CONNECTICUT - Skeletonized grape leaves at Storrs, Tolland County. (Kollas).

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - NEVADA - First adults of season at Las Vegas, Clark County, May 10, six weeks later than earliest adult emergence in 1974 and about 4 weeks later than usual. (Zoller).

A GEOMETRID MOTH (Ematurga amitaria) - MASSACHUSETTS - Adults in flight in cranberry bogs at Carver, Plymouth County, about 2-3 weeks early. (Tomlinson).

BLACKHEADED FIREWORM (Rhopobota naevana) - MASSACHUSETTS - Eggs hatched and larvae feeding on cranberry terminals at Carver and Wareham, Plymouth County. (Tomlinson).

A MIDGE (Dasineura oxycoccana) - MASSACHUSETTS - First eggs of season in cranberry bog at Wareham, Plymouth County. (Tomlinson).

ORNAMENTALS

INSECTS

BAGWORM (Thyridopteryx ephemeraeformis) - MISSOURI - Hatched in northwest area. (Burgess). NEW HAMPSHIRE - Hatched out in central areas. Larvae 0.06 inch or less long. (Cagle).

AZALEA BARK SCALE (Eriococcus azaleae) - OREGON - Heavy on dooryard planting of Azalea mollis and Rhododendron in northeast Portland, Multnomah County; 17 egg masses per inch. Egg laying completed. (Collier).

FOREST AND SHADE TREES

DISEASES

SWISS NEEDLECAST (Adelopus gaeumanni) - MICHIGAN - First of season on Douglas-fir week ending May 14. (Laemmle).

NEEDLE BLIGHT (Dotistroma pini) - WISCONSIN - Severely defoliated windbreak of Austrian pine in extreme southwestern Sauk County, only tuft of new needles at branch tips. (WI Pest Sur.).

SYCAMORE ANTHRACNOSE (Gnomonia spp.) - KANSAS - G. platani severe on sycamore in Pratt, Kiowa, and Barber Counties. (Sim).
MICHIGAN - First appearance of season of G. veneta on sycamore in leaf blight stage week ending May 14. (Laemmlein).

DUTCH ELM DISEASE (Ceratocystis ulmi) - MINNESOTA - First confirmed case of season at Minnetonka, Hennepin County. (MN Pest Rpt.).

RED BUTT ROT (Polyporus schweinitzii) - MISSISSIPPI - Early symptoms on Pinus taeda (loblolly) saplings in Oktibbeha County week ending May 14. Some dieback seems to be associated. (MacGown).

INSECTS

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - ILLINOIS - Larvae fed at base of new shoots on pine trees and shrubs, especially in central and north areas. (Sur. Bull.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - OHIO - Adults laying eggs in 1.5 acre planting of Scotch pine in Jackson County. (Nielsen).

SPRUCE BUDWORM (Choristoneura fumiferana) - MAINE - Larvae 90 percent in third instar in Washington and southern Aroostook Counties. Spraying to begin early next period in Washington County. (Gall).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - Adults began to emerge in northern Willamette Valley. Adults 3 on 2 multilure traps in Ladd District, Portland, Multnomah County, May 12-18. (Penrose).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEVADA - Larvae on elms in Moapa Valley, Clark County. (Zoller et al.). First eggs of season on elm in southern Washoe County. (NV Coop. Rpt.).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - MONTANA - Severe on quaking aspen at Billings, Yellowstone County. (Jensen).

PERIODICAL CICADAS (Magicalicada spp.) - MISSOURI - Cast skins and adults of Magicalicada sp., brood XXIII, in Cape Girardeau County; cast skin taken in Boone County. (Munson). MISSISSIPPI - Magicalicada sp. heavy in Union, Webster, De Soto, Yalobusha, and Monroe Counties. (Anderson). ALABAMA - First of season. Heavy emergence at Tuscaloosa, Tuscaloosa County. Probably brood XXIII of Magicalicada septendecim. (Sconyers, Burnette). TENNESSEE - Magicalicada septendecim emerged in Hardin, McNairy, Hardeman, Fayette, and Shelby Counties. Brood unknown. (Locke).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - TEXAS - Continued increase on cattle, sheep, and goats in Llano, Nolan, Mason, Sterling, McCulloch, Schleicher, and Mitchell Counties. Ranged 500-2,000 per animal. (Wilson). MISSISSIPPI - Adults per head by county

week ending May 14: Noxubee, Kemper, Lauderdale, and Newton averaged 100+; Neshoba, Scott, and Winston up to 400+. Currently adults per head of cattle by county: Attala 400+, Leake 1,000, Scott 200+, Madison 400+, Holmes 200+, Carroll 200+, Montgomery 200+, Choctaw 600+, and Oktibbeha 1,000+. (Anderson). FLORIDA - Horn fly adults averaged 260 per animal on small beef near Gainesville, Alachua County. (Escher). IOWA - Ranged 0-50 (average 20) per head on cattle in Ringgold County. (DeWitt).

FACE FLY (*Musca autumnalis*) - ALABAMA - Collected from cattle on farm in Jefferson County by G. Smith, April 19, 1976. Determined by R.J. Gagné. This is a new county record. (McQueen). MISSISSIPPI - Counts per face on cattle by county: Attala one, Holmes 4, Carroll 2, Montgomery 10, Choctaw 7, and Oktibbeha 12. Current counts per face on cattle by county: Oktibbeha 20+, Noxubee 5+, and Winston 3+. (Anderson).

MOSQUITOES - FLORIDA - *Aedes taeniorhynchus* heavy at Flamingo, Dade County. Some campers left area. Several hundred per sweep; landing counts 100+ per minute. (FL Coop. Sur.). WISCONSIN - Biting in La Crosse, Chippewa, Iowa, Langlade, and Oconto Counties. Annoyed cattle in Chippewa and La Crosse Counties. (WI Pest Sur.).

NORTHERN CATTLE GRUB (*Hypoderma bovis*) - WISCONSIN - Adults harassed several herds in Crawford County. (WI Pest Sur.).

COMMON CATTLE GRUB (*Hypoderma lineatum*) - TEXAS - Adults active in Mitchell and Mason Counties. (Wilson).

LONE STAR TICK (*Amblyomma americanum*) - TEXAS - Moderate on sheep and cattle throughout Hill County. (Stewart).

A BLACK FLY (*Simulium* sp.) - NORTH DAKOTA - In Burleigh County 4-5 thousand per animal on horses. (Brandvik).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ICHNEUMONID WASP (*Bathyplectes curculionis*) - OHIO - Parasitism of *Hypera postica* (alfalfa weevil) larvae light statewide. Parasitized 7.5 percent of larvae and 2.6 percent in Williams County May 10 and in Stark County May 12. (Lewis).

AN ICHNEUMONID WASP (*Lemophagus curtus*) - Recovered from *Oulema melanopus* (cereal leaf beetle) larvae collected on oats in these States. OHIO - From Bedford Township, Coshocton County, May 18. INDIANA - From Johnson Township, La Porte County, May 24. (PPQ).

ICHNEUMONID WASPS (*Diaparsis* spp.) - Recovered from *Oulema melanopus* (cereal leaf beetle) larvae collected from oats in these States. WEST VIRGINIA - From Robinson Magisterial District, Mason County, May 17. OHIO - From Bedford Township, Coshocton County, May 18. INDIANA - From Johnson Township, La Porte County, May 24. (PPQ).

A EULOPHID WASP (Tetrastichus julis) - Larvae recovered from Oulema melanopus (cereal leaf beetle) larvae collected from oats in these States. INDIANA - Collected from Spencer Township, Harrison County, by F. Smith, May 13, 1976. Determined by V.E. Montgomery. This is a new county record. From Johnson Township, La Porte County, May 24. MICHIGAN - From Bertrand Township, Berrien County, May 21 and Galien Township, Berrien County, May 24. (PPQ).

A MYMARID WASP (Anaphes flavipes) - Adults recovered from Oulema melanopus (cereal leaf beetle) eggs collected from oats in these States. WEST VIRGINIA - From Arbuckle Magisterial District, Mason County, May 17. PENNSYLVANIA - From Venango Township, Crawford County, May 13. NEW YORK - From Seneca Township, Ontario County, May 17. MICHIGAN - From California and Gilead Townships, Branch County, May 19. (PPQ).

FEDERAL AND STATE PROGRAMS

DISEASES

BLACK STEM RUST (Puccinia graminis) - WISCONSIN - Aecia on European barberry in western Dane, Grant, and Iowa Counties. (WI Pest Sur.).

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - TENNESSEE - Larvae collected on oats at Pall Mall, Fentress County, May 10, 1976, and at Sparta, White County, May 18 by C.E. Turpen. Larvae collected on wheat at Mount Juliet, Wilson County, by L.C. Greene May 18 and at Cookeville, Putnam County, by C.E. Turpen May 14. All determined by B.G. Stafford; confirmed by J.C. Litton. These are all new county records. (PPQ). KENTUCKY - Eggs averaged per square foot of oats by county: Bourbon 0.4, Fleming 2.7, Jefferson 0.75, Lewis 5.2, Nicholas 0.85, and Shelby 0.47. Heaviest, averaged 9.95 eggs per square foot, in Lewis County field. Ratio of eggs to larvae equal to or exceeded by larvae in west counties and 2 to 1 in eastern counties. (Sperka). OHIO - Adults averaged 54 per 100 sweeps in oat field in Brown County. Feeding damage on 8 to 12-inch plants on 40 percent of tillers. All instars present; 10 larvae per square foot. Eggs very light. (Lewis). VIRGINIA - Larval averages of 2-3 per stem widespread on oats, wheat, and barley in Rockbridge and Augusta Counties. (Allen). PENNSYLVANIA - Eggs (and larvae) per 2 foot row of oats by area: Butler County 15-20 (1-3); central area 1-33 (0-7) with trace of damage. (Kadow, Lilley). NEW YORK - Adults averaged 14 per 100 sweeps in 4 wheat fields in Wyoming County May 10 and 13. (Fendick). Adult feeding and egg laying in Tompkins County. (Willson).

GRASSHOPPERS - IDAHO - First instar of Trimerotropis pallidipennis and second instar of Ageneotettix deorum 2 miles north of Emmett, Gem County, May 14. Fewer than one per square yard. (Brusven). MONTANA - First report of damage on small grains in northern Hill County. (Carlson).

GYPSY MOTH (Lymantria dispar) - CONNECTICUT - Larvae 0.25 inch at Woodstock, Windham County. (Kollas). VERMONT - Heavy overwintering egg mortality at North Hero, Grand Isle County. (MacCollom).

MORMON CRICKET (Anabrus simplex) - IDAHO - Heavy hatch commenced at Midvale, Washington County, and Bull Canyon, Power County. Nymphs up to 50 per square foot in Keithly Creek area near Midvale. (Pollard).

SCREWWORM (Cochliomyia hominivorax) - Total of 536 cases reported from continental U.S. May 2-15 as follows: Texas 528, New Mexico 1, Arizona 7. Total of 792 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 507 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 284,317,500 as follows: Texas 263,607,500; New Mexico 90,000; Arizona 19,620,000. Total of 40,610,700 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HAWAII PEST REPORT

General Vegetables - LEAFMINER FLIES (Liriomyza spp.) counts and damage heavy on 4 acres of tomato at Kihei and Pulehu, Maui. Heavily mined more than 80 percent of leaves at Pulehu. IMPORTED CABBAGEWORM (Pieris rapae) eggs 5-20 on 90 percent of 0.5-acre of head cabbage at Omaopio, Maui. Adults active in area, but larvae scarce. BROAD MITE (Polyphagotarsonemus latus) infestations and damage heavy in yard plantings of bell pepper and Swiss chard at Kahului, Maui, and moderate on small planting of goa beans at Lanai City, Lanai. About 30-40 percent of terminals malformed. (Lai et al.). A TREEHOPPER (Antianthe expansa) moderate on 500 square feet of cherry tomatoes at Waihee, Maui, all stages present. (Miyahira). CHINESE ROSE BEETLE (Adoretus sinicus) moderately damaged young and old leaves of eggplant, 50 percent of leaves with feeding holes, in garden at Lanai City. (Lai, Nakahara).

DETECTION

INSECTS

GROUNDNUT BRUCHID (Caryedon serratus (Olivier)) - PUERTO RICO - (p. 261).

NEW COUNTY RECORDS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - TENNESSEE - Fentress, White, Wilson, Putnam (p. 264).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Harrison (p. 264).

FACE FLY (Musca autumnalis) - ALABAMA - Jefferson (p. 263).

CORRECTIONS

CPPR 1(16):169 - A THRIPS (Anaphothrips orchidii) should be A THRIPS (Chaetanaphothrips orchidii) ... (S. Nakahara).

LIGHT TRAP COLLECTIONS

	Temperature	Specimen	Trap	Species	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Crops
		Size	Type	of	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps	Traps
FLORIDA																				
Alachua 5.14-15,																				
18-20																				
Gainesville 5.14-20																				
MISSISSIPPI																				
Stoneville 5.14-20	48-76	0.91	2BL																	
MISSOURI (County)																				
Platte 5.14-21																				
NEBRASKA																				
Concord 5.14-20																				
OHIO																				
Wooster 5.15-21			3BL																	
OREGON																				
Dever 5.13-19																				
St. Paul 5.13-19																				
PENNSYLVANIA (Districts)																				
Central 5.12-18																				
North East 5.12-18																				
WISCONSIN																				
Lancaster 5.13-19																				
Mazomanie 5.13-19																				

WEATHER OF THE WEEK ENDING MAY 23

Reprinted from Weekly Weather and Crop Bulletin Supplied by National Weather Service, NOAA.

HIGHLIGHTS: A massive high pressure system shaped a damp chilly week for most of the eastern two-thirds of the Nation. Moving southward through the Plains, a large cold air mass took credit for a number of record low readings. Weekly precipitation focused on the eastern regions and isolated spots of the central United States. Some severe weather occurred from New England to the Carolinas and produced heavy rains and hail in a section of the lower Great Plains. Low pressure brought 3 days of chilling rain to parts of the Northeast. Thunderstorms intensified in the south-central United States spawning hail in portions of Texas.

TEMPERATURE AND PRECIPITATION: A massive cold air flow moved southward through the Plains States Monday morning, temperatures skidded into the 20's and 30's in the northern and central regions. Elsewhere, cooler air streaming into the Pacific Northwest stalled daytime temperatures in the 50's and 60's at levels more than 30 degrees chillier than the weekend readings. Otherwise, the Nation enjoyed mild or warm weather. Along the gulf coast and Florida, the mercury pushed into the 80's, mostly 70's prevailed in southern New England and the northern Plains. Continuing its eastward course through the Midwest, a slow moving storm system created showers and thundershowers along the Ohio Valley and from Missouri into western Pennsylvania. A few showers were scattered around the Great Lakes region. Monday's precipitation pattern also traced moisture along the Rio Grande Valley of Texas from the Big Bend country to the gulf. Coastal showers lined the Atlantic from southern Florida into southern New England. Cool air from Tuesday's expansive high pressure system encompassed the eastern two-thirds of the Nation. Fourteen cities from the Canadian border to as far south as northern Texas and Louisiana claimed new record lows. At the top of the list were International Falls, Minnesota, --29 degrees and Spokane, Washington, and Madison, Wisconsin, both 32 degrees. At daybreak, showers and thunderstorms appeared east of a line from the Mississippi Delta through the lower Great Lakes region. Later in the day some severe weather accompanied a wide band of showers and thunderstorms from New England and New York to the eastern Carolinas. Tornadoes and golf ball-size hail struck North Carolina but no damage was reported. Other showers and thunderstorms scattered throughout the Rockies, the extreme western Plains, and Arizona.

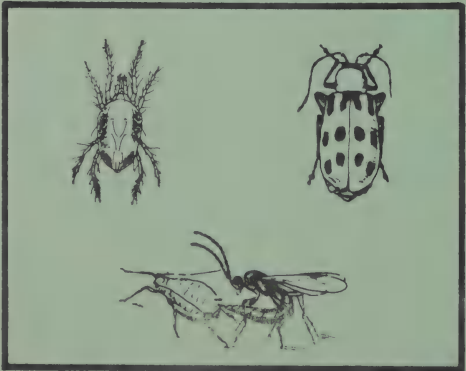
Evening clear skies and mild temperatures favored a large portion of the Nation with readings in the 60's and 70's dominant in the Plains and the Mississippi Valley regions and most of the Pacific coast. The midweek temperature check turned up more record lows over much of the South and East as a large high pressure settled over the middle Mississippi Valley. In response to a deep low pressure center northwest of Maine, cold rain developed in New England, New York, and Pennsylvania with snow in the higher elevations and interior sections. Except for these cloudy New England areas, and the usually cool Pacific coastal areas, readings in 70's and 80's dominated most of the Nation, a few 90's singled out portions of the central Plains and Desert Southwest area.

Meantime, scattered thundershowers dotted the Rocky Mountain and southern Plateau regions and southern portions of Texas and Florida. Moving over the eastern States, a high pressure dealt the Southeast some very cool weather Thursday. Lows in the 40's chilled many cities: Richmond, Virginia,--41 degrees and Macon, Georgia,--46 degrees. After three consecutive days of rain, a low pressure center over Maine weakened and shower activity diminished in the Northeast. Only a few light showers lingered in northern Maine. Another area of showers formed from eastern lower Michigan across Pennsylvania into New Jersey, Maryland, and Delaware. In addition, a frontal system triggered isolated thundershowers from the lower Great Lakes region to the upper Mississippi Valley. When a cold front moved eastward on Friday thunderstorms, none severe, erupted over southern New England and southeast New York into eastern Pennsylvania. Elsewhere, thundershowers brought isolated severe weather and heavy rains to the central and southern Plains. Hail pounded parts of Texas, Nebraska, and Kansas. During the day, a collection of thundershowers moved across the North-Atlantic States. As low pressure took shape in the gulf, thundershowers sprang up over Florida, and southwest Alabama. The sluggish movement of the Nation's weather system spelled little change in the weekend conditions. A stationary front curving through the middle Mississippi Valley and central Plains into the Texas Panhandle generated precipitation across the area. The biggest weekend rain maker, the low pressure center now in the Southeast, delivered showers on Sunday to the south Atlantic coast from the Carolinas into Florida and across Alabama. In the south-central United States, thunderstorms intensified and shifted from northeast Texas into the adjacent sections of Oklahoma, Arkansas, and Louisiana. In parts of Texas, large hail accompanied the storm activity.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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Cooperative

PLANT PEST REPORT



Animal
and Plant
Health
Inspection
Service

U.S.
DEPARTMENT
OF AGRICULTURE



This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
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Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Serious ASTER YELLOWS VIRUS year predicted in Wisconsin. (p. 271).

ARMY CUTWORM adults heavy in Oklahoma and Nebraska. (p. 271).

Some replanting of corn due to BLACK CUTWORM in Indiana, Iowa, and Nebraska. (p. 272).

POWDERY MILDEW OF WHEAT severe on wheat in Kansas and Minnesota. (p. 273).

ALFALFA WEEVIL larvae 10 per sweep or heavier in Nevada, Colorado, Nebraska, South Dakota, Illinois, and Ohio. (p. 275).

CABBAGE MAGGOT damage severe in New Hampshire and Maine. (p. 277).

HORN FLY over 200 per head in Texas, Oklahoma, and Mississippi. (p. 281).

GRASSHOPPERS up to 100 per square yard in area of Oregon. (p. 283).

Detection

New State records include a BILLBUG in Oregon (p. 274) and a EULOPHID WASP in Maryland (p. 282).

For new county records, see page 285.

Reports in this issue are for the week ending May 28 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

DISEASES

ASTER YELLOWS VIRUS (AYV) - WISCONSIN - Infected 3 percent of Macrosteles fascifrons (aster leafhopper). Another serious AYV year predicted. (WI Pest Sur.). See ASTER LEAFHOPPER under this section.

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - Adults continued very heavy in western half of State. Light trap counts in Payne County averaged about 200 per night. Light trap in Greer County caught 192. (OK Coop. Sur.). NEBRASKA - Adult emergence well underway statewide, very heavy in southwest and south-central counties. (Keith et al.). MINNESOTA - Severe damage to sunflowers 15 miles south of Wheaton, Traverse County. (Noetzel).

ARMYWORM (Pseudaletia unipuncta) - OKLAHOMA - Larvae light, 1-24 per 50 sweeps, on most wheat in Noble, Kay, Grant, Garfield, Alfalfa, and Major Counties week ending May 21. Heavier, 1-5 per square foot, in few scattered fields in Garfield County; damage noneconomic. Currently moderate on wheat in Garfield County. (OK Coop. Sur.). KANSAS - Larval averages per square foot by county: Crawford 3 on lodged wheat, 0.2 on standing wheat; Neosho 2 on lodged wheat and 0.2 on standing wheat; Anderson averaged one on standing barley. (Bell). TENNESSEE - Up to one per linear foot of small grains in Dyer, Grundy, Giles, and Campbell Counties. (Turpen et al.). KENTUCKY - Larvae, 0.5 inch, 1-2 per corn plant along 2 acres of field border in 20-acre field in Graves County. (Scheibner). MARYLAND - Late-instar larvae economic, 2 per linear foot, in many sprayed wheat fields in Caroline and upper Dorchester Counties. Other areas subeconomic. (U. Md., Ent. Dept.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Ranged 6-20 per 100 sweeps of oats in west-central, central, east-central, southwest, and south-central areas. On alfalfa, rye, and winter wheat. (WI Pest Sur.). MINNESOTA - Generally lighter than in previous 7 days, probably due to dry weather in south-central and southwest districts. Averages per 100 sweeps by county: Winter wheat - Sibley 5, Lyon 8, Cottonwood 10; spring wheat - Brown 8; oats - Sibley 20, Lyon 12-80, Renville 12, Yellow Medicine 12, Lincoln 4; winter rye - Lincoln 10. (MN Pest Rpt.). See ASTER YELLOWS VIRUS under this section.

CORN EARWORM (Heliothis zea) - FLORIDA - Infested silks on 25 percent of 10 acres of untreated sweet corn 7 miles west of Gainesville, Alachua County, May 21; corn treated next day. Larvae, one per plant, on 30 percent of 22 acres of flue-cure tobacco 5 miles southwest of Chiefland, Levy County, May 21; treatments reduced infestations to 10 percent June 26. (FL Coop. Sur.). MARYLAND - First adults in blacklight traps on upper Eastern Shore. (U. Md., Ent. Dept.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Counts per young sorghum plant by county: Muskogee 0-5 week ending May 21; currently - Tulsa 1-5, Wagoner 2-20, Jackson 3-21, and Le Flore light. (OK Coop. Sur.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Counts per sorghum plant by county: Wagoner 5-50 on 4 to 6-inch plants; Tulsa 25-50 on 2 to 4-inch plants. Several fields treated. (OK Coop. Sur.). KANSAS - Recent rains slowed buildups on sorghum in east area; winged greenbugs still flying into fields. Large flights in Pawnee County on corn and in Finney County on 2-leaf sorghum. Averages per 2 to 6-leaf sorghum by county: Bourbon one, Crawford 10-11, Osage one, Lyon 8, Johnson 13, Douglas 4-8, Pottawatomie trace, and Finney 2. (Bell).

POTATO LEAFHOPPER (Empoasca fabae) - PENNSYLVANIA - Adults on 18-inch alfalfa by county: Somerset average of one per 2 sweeps, Centre one per 4 sweeps. (Leydig et al.). OHIO - Averaged 14 adults per 100 sweeps of alfalfa in west area. (Lewis). MINNESOTA - First report of season on alfalfa in Renville County. (MN Pest Rpt.).

TOBACCO BUDWORM (Heliothis virescens) - NORTH CAROLINA - At economic threshold in 24 of 169 Bladen County tobacco fields; one field 60 percent infested. Most frequent infestation level 7 percent. Controls adequate to date. (Walker).

CORN, SORGHUM, SUGARCANE

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Adults from overwintered generation flying in Johnson, Shawnee, Franklin, and Kiowa Counties. (Bell). MISSOURI - Emergence nearly completed statewide. Most corn still too small for egg laying. Egg masses in southeast area. (Munson). WISCONSIN - First adults in southern blacklight trap. Development in cornstalks: Brodhead, Green County, 35 percent larvae, 65 percent pupae; Beaver Dam, Dodge County, 12 percent larvae, 88 percent pupae; Manitowoc, Manitowoc County, 100 percent larvae. (WI Pest Sur.).

BLACK CUTWORM (Agrotis ipsilon) - INDIANA - Corn damage by county: Vigo loss of 40-60 percent of plants (50 of 130 acres replanted), economic spot damage in another field; Delaware spots up to 30 percent cut in one field, 6 acres replanted. (Schoenbohm). IOWA - Larvae on small field corn in Woodbury, Plymouth, Kossuth, Greene, Cerro Gordo, Boone, Jasper, Union, Delaware, Jones, and Mahaska Counties. Stand reductions 50-80 percent. Replanting and treatments underway. Larvae 0.5-1.0 inch. Damage to increase. (DeWitt). NEBRASKA - Third and fourth-instar larvae severely damaged corn field in Richardson County enough to need replanting. (Hopp).

WIREWORMS - NORTH CAROLINA - Conoderus sp. and Melanotus sp. continued to heavily damage late-planted and/or germinating corn fields scattered over entire Piedmont and Coastal Plain. Stand reduction 30 percent in 4 of 10 fields. (Hunt).

YELLOW SUGARCANE APHID (*Sipha flava*) - TEXAS - Colonies on sorghum in Bell, McLennan, and Hill Counties. Not economic but a little heavier than in previous week. Beneficial insects, continued to increase, effective. (Hoelscher). OKLAHOMA - Counts per sorghum plant by county: Wagoner 2-20 on 4 to 6-inch plants and Tulsa 5-10 per 2 to 4-inch plant. (OK Coop. Sur.). KANSAS - Small colonies occasionally on sorghum in Bourbon, Crawford, Johnson, Lyon, Douglas, Osage, and Wabaunsee Counties. Heaviest count averaged 3 per plant in field in Crawford County. (Bell).

SMALL GRAINS

DISEASES

LEAF RUST OF WHEAT (*Puccinia recondita* var. *tritici*) - KANSAS - Trace on wheat in Graham, Norton, Cheyenne, Sherman, Logan, Ness, Finney, Ellis, Marshall, Washington, Pottawatomie, Shawnee, Saline, Dickinson, Geary, and Anderson Counties. Percent infection by county: Sedgwick up to 10, Allen about 80 in one field, and Crawford about 95 in one field. Last 2 counties had 5 percent of leaf area covered with pustules. (Sim). KENTUCKY - Appearing on wheat in many areas. Uredial stage evident. (Stuckey).

POWDERY MILDEW OF WHEAT (*Erysiphe graminis* var. *tritici*) - KANSAS - Severe enough to infect glumes in wheat field in Cherokee County. (Sim). MINNESOTA - Severely infected lower half of many lines of winter wheat at St. Paul, Ramsey County. Infection started leaf below flag leaf. Plants early heading and 2 feet tall. Some similar infections in south area. (Johnson).

SPECKLED LEAF BLOTCH (*Septoria tritici*) - KANSAS - Heavy, unless otherwise stated, on 100 percent of wheat surveyed in Republic, Jewell, Phillips moderate to heavy, Rooks, and Barton Counties. Moderate on 100 percent, unless otherwise stated, of wheat surveyed in Clay, Cloud, Mitchell 80-100, Smith 50-100, Graham, Norton, Decatur, Sheridan, Thomas, Cheyenne, Sherman, Wallace, Logan, Wichita, Scott, Lane, Ness, Rush, Sedgwick, and Cowley 20. (Sim).

CEPHALOSPORIUM STRIPE OF WHEAT (*Cephalosporium gramineum*) - KANSAS - Percent of wheat infected by county; Clay trace, Cloud 2-3, Republic 20, Mitchell trace, Decatur trace, Jewell 2-3. Continued heavy in Sedgwick, Harvey, and McPherson Counties. Reported in Douglas, Shawnee, Jefferson, and Franklin Counties. (Sim).

BARLEY YELLOW DWARF VIRUS - KANSAS - Prevalent in nearly every wheat field statewide. Moderate to severe in few fields in Finney County. (Sim).

WHEAT STREAK MOSAIC VIRUS - TEXAS - Detected in wheat in Armstrong County. (Patrick). See WHEAT CURL MITE under this section.

INSECTS

WHEAT CURL MITE (*Eriophyes tulipae*) - TEXAS - Detected on wheat in Armstrong County. (Patrick). See WHEAT STREAK MOSAIC VIRUS under this section.

TURF, PASTURES, RANGELAND

DISEASES

MELTING OUT (Helminthosporium vagans) - RHODE ISLAND - Many problems in turf of residential areas in Washington and Kent Counties week ending May 21. (Jackson, Larmie).

INSECTS

A BILLBUG (Sphenophorus cicatristriatus) - OREGON - Single adult collected from damaged lawn at Rufus, Sherman County, by R.L. Penrose, May 5, 1972. Determined by C.W. O'Brien. This is a new State record. (Penrose).

A SCARAB (Ataenius spretulus) - OHIO - First-instar larvae found May 18 and second instars May 26 in golf course fairways at Cincinnati, Hamilton County. Females still laying eggs. (Niemczyk, Wegner).

A GRASS BUG (Labops hesperius) - NEBRASKA - Damaging numbers throughout panhandle, generally decreased to east and south. Infestations all along northern tier of counties as far east as Knox County and south to Furnas County. (Hohnholt, Baker).

CHINCH BUG (Blissus leucopterus leucopterus) - RHODE ISLAND - First adults in Kent County. Damage to turf very advanced in Washington and Providence Counties. (Wallace et al.).

LASIOCAMPID MOTHS (Malacosoma spp.) - NEVADA - Early instar larvae of M. californicum (western tent caterpillar) caused moderate damage to bitterbrush on 400 acres of range at Ruby Valley, Elko County. (Hannon, Peters). IDAHO - Many M. disstria (forest tent caterpillar) larvae infested range shrubs, including wild gooseberry and bitterbrush. Most severe on bitterbrush. Infested brush in Owyhee and Twin Falls Counties. (Baird et al.).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Hatch continued over general area in Colfax, Harding, and Union Counties. Second-instar larvae southeast of Clayton, Union County, and south of Springer, Colfax County. (NM Coop. Rpt.). TEXAS - About half of egg masses observed, hatched or hatching with 75-90 percent hatch success, south of Texline in Dallam County. (Patrick).

FORAGE LEGUMES

DISEASES

SPRING BLACK STEM (Phoma medicaginis) - KANSAS - Percent of alfalfa with light infection by county: Clay 80, Coffey 20, Decatur 20, Rawlins 100, Wallace 10, Logan 20, Wichita 10-20. Percent of plants with moderate infection by county: Republic 90, Smith 100, Phillips 80, Rooks 40. (Sim).

DOWNY MILDEW OF ALFALFA (Peronospora trifoliorum) - KANSAS - Percent of alfalfa infected by county: Rawlins trace, Wichita trace to one, Wallace 80 percent with moderate to severe infections. (Sim).

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEVADA - Larvae per sweep by county: Esmeralda averaged 30 on hay alfalfa in Fish Lake Valley; Lyon averaged 21 on untreated hay alfalfa in Mason Valley; Washoe 100+ on experimental alfalfa plots at Sparks. (Beldon et al.). **COLORADO** - Larvae 10-30 per sweep with 60 percent alfalfa tips damaged in Arkansas Valley week ending May 21. Larvae very few and adults averaged one per sweep on alfalfa in Larimer County. (Schweissing, Simpson). **TEXAS** - Heavy on alfalfa in most panhandle counties. (Patrick). Larvae, mostly third and fourth instar, averaged 2 per sweep in Lubbock County field. (Morrison). **OKLAHOMA** - Counts per 10 sweeps of alfalfa by county week ending May 21: Garfield moderate, Kay and Major 0-3, Woods averaged 9. Current larvae per sweep of alfalfa by county: Major and Dewey 1-3; Harper, Alfalfa, and Woodward 10-20; Beaver 40-50; Caddo and Washita adults light. (OK Coop. Sur.).

NEBRASKA - Averages of alfalfa weevil per 100 sweeps of forage legumes by county: Greeley 4,000 larvae (mostly second or third instar), fewer than one adult, 56 percent tip feeding; Howard 2,000 larvae, 100 adults, 62.5 percent tip feeding (all fields in early bud stage); Washington 396 larvae, 1.75 adults; York and Seward 403 larvae, 4 adults; Otoe 1,014 larvae, 5 adults; Antelope, Dixon, Cedar, Dakota, and Knox counts up to 1,000 larvae, averaged 50 percent tip feeding; Morrill up to 60 percent tip feeding in some fields. (Peters et al.). **SOUTH DAKOTA** - Larvae 300-1,100 per 100 sweeps with very heavy damage in some fields in Yankton County. (Walgenbach).

MINNESOTA - Mostly second and third instars of alfalfa weevil. Larval averages per 100 sweeps of forage legumes by county: Brown 8, Cottonwood 30, Lyon 8, and Sibley 30. (MN Pest Rpt.). **WISCONSIN** - Larvae heavier on alfalfa in southern half of State. Larvae 8 per sweep at Spring Green and 20-100 per 100 sweeps in south-central and southwest areas. Lighter in west-central area but 200 per 100 sweeps found in St. Croix County. (WI Pest Sur.). **MICHIGAN** - Becoming abundant on forage as far north as Montcalm and Shiawassee Counties week ending May 21. (Ruppel).

ILLINOIS - Still heavy on alfalfa in occasional central and northern area fields. Alfalfa weevil larvae 28 per sweep in field near State Route 30. Most alfalfa close to harvest. (Sur. Bull.). **OHIO** - Larvae per 100 sweeps (and percent of forage plants damaged) May 21-26 by county: Preble 588 (100 percent defoliated); Butler 246 (30); Hamilton 356 (45); Warren 430 (100); Mercer 172 (15); Darke 950 (100); Defiance 540 (10); Paulding 146 (75 percent of all plants, 10 percent on new growth); Van Wert 294 (50); Wayne 1,684 (100); Medina (75-90). Harvesting well underway statewide. (Lewis et al.). **PENNSYLVANIA** - Adults 8 and larvae 55 per 20 sweeps of 18-inch alfalfa in Centre County. Damage moderate. (Shetlar).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - CALIFORNIA - Ratio of 2 A. kondoi to one A. pisum (pea aphid) on alfalfa in Fresno County. (CA Coop. Rpt.). **NEVADA** - Averages per sweep for both species on hay alfalfa by county: Esmeralda 30-40 in Fish Lake Valley; Lyon 30

A. kondoi and A. pisum in Mason Valley; Pershing mostly former species less than 5 on hay and seed alfalfa at Lovelock except for one field with averages of 30-40 per sweep. (Hilbig et al.). KANSAS - A. kondoi collected from alfalfa for new county records. Near Hays, Ellis County, by T. L. Harvey, May 21, 1976. Near Emporia, Lyon County, by B.D. Hilbert, May 24. Near Garnett, Anderson County, by B.D. Hilbert, May 27. Near Wabaunsee, Wabaunsee County, by K.O. Bell, May 27. All determined by K.O. Bell. (Bell).

PEA APHID (Acyrtosiphon pisum) - OKLAHOMA - Averages per 10 sweeps of alfalfa by county week ending May 21: Woods 60, Major 40, Muskogee light. (OK Coop. Sur.). MINNESOTA - Averages per 100 sweeps by county: Brown 26, Cottonwood 75-200, Lyon 300-400, and Sibley 30. (MN Pest Rpt.). WISCONSIN - Mostly 12-120 per 100 sweeps of alfalfa in south area. (WI Pest Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MISSOURI - Still heavy throughout central and north areas on clovers, weeds, and some grasses. (Munson). WISCONSIN - Ranged 0-5 per 10 alfalfa stems in south area. Spittle masses easily seen. (WI Pest Sur.). OHIO - Adults heavy, averaged over one per sweep, on forage in southwest area. (Lewis).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Up to 200 adults and 120 nymphs per 25 sweeps of alfalfa at Cotton City, Hidalgo County. Much leaf spotting noted. (NM Coop. Rpt.).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - Average of 15 mines per stem and 5-20 adults per sweep in several alfalfa fields in Centre County. (Shetlar).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Overwintered adults moderate to heavy on cotton in Wharton County. (Cole). Many on seedling cotton near overwintering sites in Blacklands. (Hoelscher). OKLAHOMA - Adult averages per pheromone trap per night by county: Tillman 57, Harmon 95, Jackson 107, Greer 121, Kiowa 193, Caddo and Washita ranged 0-123. (OK Coop. Sur.). TENNESSEE - Total of 675 overwintered adults trapped May 24-25 from 12 counties. (Gordon).

COTTON APHID (Aphis gossypii) - ALABAMA - Mixed and damaging counts of this and Frankliniella spp. (thrips) over several thousand acres of cotton in Lauderdale, Limestone, Shelby, Lee, and other counties. (Halla et al.).

MISCELLANEOUS FIELD CROPS

INSECTS

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Ranged 2-3,867 per light trap in sunflowers in many High Plains counties week ending May 24. Counts of 143+ in over two-thirds of counties. (Morrison).

POTATOES, TOMATOES, PEPPERS

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH CAROLINA - Damage in most untreated potato fields in northeastern counties. Up to 90 percent of potato hills infested in untreated field in Pasquotank County. (Irish Potato Alert).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - ALABAMA - All stages damaged tomato plants in 6-acre commercial planting in Montgomery County. (Robinett et al.).

PACIFIC COAST WIREWORM (Limonius canus) - CALIFORNIA - Larvae, 2-3 in some stems, damaged newly planted tomato plants at Fresno, Fresno County. (CA Coop. Rpt.).

BEANS AND PEAS

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Recent emergence of overwintered adults in Lee County heavy. All stages on beans in many gardens; controls required. (Arant et al.).

COLE CROPS

INSECTS

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - OKLAHOMA - First larva of season on cabbage in Payne County. (OK Coop. Sur.).

CABBAGE MAGGOT (Hylemya brassicae) - NEW HAMPSHIRE - Heavy at Dover, Strafford County. Caused extensive damage to untreated cabbage plants. (Turmel). MAINE - Severely damaged cole and crucifer plants, especially cabbage, broccoli, and radishes in southern and up through central area. (Gall).

CUCURBITS

INSECTS

STRIPED CUCUMBER BEETLE (Acalymma vittata) - NEBRASKA - Very heavy for this time of year in new plantings of cantaloup, watermelon, and cucumber in Lancaster County. Averaged 7.5 beetles per hill. (Steinke et al.).

DECIDUOUS FRUITS AND NUTS

DISEASES

FIREBLIGHT (Erwinia amylovora) - MISSOURI - In several apple orchards in southwest, west-central, and northwest areas week ending May 21. (Steiner). TENNESSEE - Heavy on apple and pear trees in west area. (Locke).

APPLE SCAB (Venturia inaequalis) - WISCONSIN - Developing on apple trees over most of south area. Infected hawthorn in Brown County. (WI Pest Sur.).

INSECTS

CODLING MOTH (Laspeyresia pomonella) - UTAH - Flights heavy nearly every night in Cache and Utah Counties. (Allred, Davis). WASHINGTON - First pheromone trap catch at Quincy, Grant County, May 25. (Hunter, Rushmore). MICHIGAN - First pheromone trap catches at Grand Rapids, Kent County, May 14. Trapped in orchards in pest management project by May 20. First moths at Hart and Shelby, Oceana County, May 17. (Brunner). OHIO - First-generation adults peaked May 17, about 10 days earlier than normal. (Hall). NEW HAMPSHIRE - First adults of year in pheromone trap at Durham, Strafford County, May 19. (Turmel).

PEACH TWIG BORER (Anarsia lineatella) - CALIFORNIA - Many deciduous fruit orchards in San Joaquin Valley sprayed. (CA Coop. Rpt.). WASHINGTON - First male in pheromone trap May 24, near Wenatchee, Chelan County; May 25 at Benton City, Benton County. (Anthon).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - MICHIGAN - Egg hatch began in many fruit areas. About 30-40 percent hatched by May 17 in Berrien County. First hatch began at Grand Rapids, Kent County, May 16; 70-80 percent hatched by May 19. (Brunner).

PLUM CURCULIO (Conotrachelus nenuphar) - PENNSYLVANIA - Injured apples and nectarines in Blair and Lycoming Counties. (Tetrault).

WESTERN CHERRY FRUIT FLY (Rhagoletis indifferens) - WASHINGTON - First adult taken in ammonia trap May 22 at Grandview, Yakima County, 6 days earlier than in 1975. (Hudson).

GREEN PEACH APHID (Myzus persicae) - PENNSYLVANIA - Very heavy. Injury moderate in some blocks in all peach areas. Chemical controls ineffective. (Tetrault).

PEAR PSYLLA (Psylla pyricola) - PENNSYLVANIA - Second-generation adults heavy; many laying eggs in Lycoming and Columbia Counties. (Tetrault).

PECAN NUT CASEBEARER (Acrobasis nuxvorella) - TEXAS - Still laying eggs on pecans in south-central area. First generation spread over long period. (Cole). Cool nights continued in Blacklands; egg laying spread over long period of time. New eggs at Waco, McLennan County. (Hoelscher). OKLAHOMA - First eggs of season on pecans in Love County May 24. Eggs white and pink (on percent of pecan clusters) by county: Cass 2 and 2 (8) at Marietta, and 0 and 3 (3) at Burneyville; Carter 2 and 0 (3.3); Murray 11 and 5 (45.7); Garvin 2 and 0 (5.7); Seminole one and 0 (4); Okfuskee one and 0 (1.7), and 2 and one (6); and Tulsa one and 0 (one). Nut set poor, especially on native or unmanaged pecans, not enough nuts for economical treatment. Light trap catches in Payne County showed first adult on May 23, 30 moths (in 6 traps) on May 24, and 17 on May 25. (OK Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Still increasing on pecans. Damage in most south-central counties. (Cole). ALABAMA - First-generation larvae in many pecan trees in scattered orchards in Covington County. (Linder).

PECAN PHYLLOXERA (Phylloxera devastatrix) - TEXAS - Very heavy on pecans in Blacklands. (Hoelscher). OKLAHOMA - Scattered moderate to heavy on pecan trees in Love, Marshall, Johnston, Carter, Murray, Garvin, Pontotoc, Seminole, and Okfuskee Counties. (OK Coop. Sur.).

PECAN LEAF PHYLLOXERA (Phylloxera notabilis) - TENNESSEE - Outbreak on pecans in west area. Heavy counts expected. (Locke).

HAWAII PEST REPORT

General Vegetables - CARMINE SPIDER MITE (Tetranychus cinnabarinus) continued problem at Waianae, Oahu. Heavy counts and damage on watermelon (5 acres) and pole beans (2 acres). Mites 30+ per square inch on 90 percent of pole bean leaves; feeding damage on pods. Harvesting shortened due to mite damage. LEAFMINER FLIES (Liriomyza spp.) counts and damage heavy (80 percent of foliage) on 2 acres of pole beans and light (10-20 percent of leaves; 3-5 mines per infested leaf) on 2 acres of green onion at Waianae. WESTERN FLOWER THRIPS (Frankliniella occidentalis) light to moderate in 0.5 acre of Manoa lettuce at Manoa, Oahu. SPOTTED WILT VIRUS infected lettuce heads in planting. (Chun, Nakahara).

Ornamentals - OLEANDER HAWK MOTH (Deilephila nerii) counts and damage light on oleander at Lahaina, Maui (1,000-foot hedge), and Lanai City, Lanai (150-foot hedge). Eggs at Lahaina 90 percent parasitized (probably by Trichogramma sp. (a mymarid wasp)). (Kahoohalahala et al.).

Beneficial Insects - A GALL FLY (Procecidochares utilis) heavy on several Maui pamakani (scarce) but P. alani light on Hamakua pamakani (more abundant) at Keanae, Maui. A TINGID BUG (Leptobyrsa decora) and LANTANA LACE BUG (Teleonemia scrupulosa) moderate to heavy on lantana at Ulupalakua and Makena, Maui. Only L. decora, heavy at Hana and Kipahulu, Maui. (Lai et al.).

SMALL FRUITS

DISEASES

ORANGE RUST (Gymnoconia peckiana) - WISCONSIN - This disease of black raspberry, found infecting Rubus spp. (wild brambles) in Dane County. (WI Pest Sur.).

ORNAMENTALS

DISEASES

POWDERY MILDEW OF EUONYMUS (Oidium euonymi-japonici) - TENNESSEE - Statewide on Euonymus japonicus (evergreen euonymus). (Sauve et al.).

APPLE SCAB (Venturia inaequalis) - RHODE ISLAND - Infected many ornamental mountain-ash trees and pyracantha plants in Providence County. (King).

INSECTS

BAGWORM (Thyridopteryx ephemeraeformis) - KANSAS - Newly hatched larvae heavy on junipers in nursery in Wyandotte County. (Bell). MARYLAND - Larvae hatched on ornamentals in central counties. (U. Md., Ent. Dept.).

A TORTRICID MOTH (Choristoneura zapulata) - NEVADA - Larvae heavily damaged cotoneaster, flowering quince, pyracantha, and rose in southern Washoe County. (Ting et al.).

RHODODENDRON BORER (Synanthedon rhododendri) - RHODE ISLAND - Early damage statewide, heaviest in at least 5 years in residential plantings. (Wallace et al.).

HOLLYHOCK WEEVIL (Apion longirostre) - NEVADA - Averaged 3 per hollyhock plant at Elko, Elko County, May 25, 1976. Collected by S.D. Peters. Determined by R.C. Bechtel. This is a new county record. (Bechtel).

FOREST AND SHADE TREES

DISEASES

BROWN SPOT OF PINE (Scirrhia acicola) - WISCONSIN - Infection from 1975 appeared on Scotch pine in Racine County. Fruiting bodies sporulated. (WI Pest Sur.).

VERTICILLIUM WILT (Verticillium alboatrum) - KENTUCKY - Several cases in maples at Lexington, Fayette County, and Louisville, Jefferson County. (Hartman).

SYCAMORE ANTHRACNOSE (Gnomonia veneta) - RHODE ISLAND - Heavy in residential trees in Providence County. (King).

INSECTS

ELM LEAF BEETLE (Pyrhalta luteola) - OKLAHOMA - Last two larval instars on elms in Payne County; some trees half defoliated. Larvae heavy in Muskogee County. (OK Coop. Sur.). KANSAS - Hatch underway at Garden City, Finney County, Manhattan, Riley County, and Emporia, Lyon County. Eggs on Siberian elms in Johnson, Douglas, and Thomas Counties. (Bell).

LOCUST LEAFMINER (Odontota dorsalis) - MARYLAND - Larvae browning leaves on locust trees in southern counties. Heavy counts expected from Prince Georges County south. (U. Md., Ent. Dept.).

A WEEVIL (Polydrusus impressifrons) - OREGON - Adults and/or leaf damage throughout planting of 300-400 Betula alba (cutleaf weeping birch) in commercial nursery near Tualatin, Washington County. (Sjoblom, Westcott).

A SAWFLY (Caliroa quercuscoccineae) - WEST VIRGINIA - First adults collected in Malaise trap and on foliage of oak and maple at Pipestem State Park, Summers County, May 22. (Hacker).

A PIT SCALE (Asterolecanium minus) - CALIFORNIA - Infested oaks on Beale Air Force Base in Yuba County. (CA Coop. Rpt.).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - TEXAS - Up to 1,500 per head on untreated beef herds in Bell, Coryell, McLennan, and Hill Counties. (Hoelscher). General increase across panhandle area. (Patrick). OKLAHOMA - Averages per head of cattle by county week ending May 21: Payne 400, Pawnee 350, Noble 200, and southwest counties heavy. Current counts per head of cattle by county: Pawnee 300-700, Payne averaged 300, Noble averaged 350, Tillman heavy, Comanche moderate to heavy, and Hughes moderate. (OK Coop. Sur.). NORTH DAKOTA - Ranged 25-150 (averaged 47) per side on 10 head of Slope County rangeland cattle. (Brandvik). MISSISSIPPI - Adults averaged 300+ per head on cattle in Clay, Chickasaw, Calhoun, Yalobusha, and Grenada Counties. (Anderson).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 4 per head on Payne County dairy cattle. (OK Coop. Sur.). MARYLAND - Noted at 50 per head on small herd of Frederick County dairy cows. (U. Md., Ent. Dept.).

BLACK FLIES - WISCONSIN - Numerous in portions of Vilas and Adams Counties. (WI Pest Sur.). NEW HAMPSHIRE - Prosimulium spp. greatly decreased in south area. Cool, wet weather kept biting to minimum in southern half of State. P. mixtum increased in Waterville Valley, Grafton County, and Twin Mountain, Coos County, with 10-15 attempting to bite at a time on sunny, warm days. Adult activity just beginning in northern half of Coos County. (Burger).

MOSQUITOES - WISCONSIN - Annoyance to humans and livestock increased greatly. Intense biting in parts of Washburn, Bayfield,

Rusk, Burnett, Adams, Chippewa, Douglas, Price, Langlade, La Crosse, Vilas, and Oneida Counties. Recent dry weather, localized mosquito problems near major, permanent wetlands and rivers, such as the Wisconsin, Wolf, Fox, Rock, Black, and Chippewa Rivers and associated marshes. Annoyed livestock in Adams and Chippewa Counties. Mostly Aedes cinereus near Black River. (WI Pest Sur.) TENNESSEE - Increased in lowland areas of west area. (Locke).

HARDBACKED TICKS - CALIFORNIA - Dermacentor variabilis (American dog tick) and D. occidentalis (Pacific Coast tick) still heavy and caused concern. Many on people and dogs. Reports from foothill and mountain areas earlier, from city residents now. Moderate in suburbs of Sacramento, Sacramento County, and Marysville, Yuba County. (CA Coop. Rpt.). WISCONSIN - D. variabilis heavy, 20 or more per person, in wooded areas north of Dane and Iowa Counties. (WI Pest Sur.). MISSISSIPPI - Rhipicephalus sanguineus (brown dog tick) and Amblyomma americanum (lone star tick) heavy on dogs and wild rodents in Marshall County. (Rhodes).

A SOFTBACKED TICK (Ornithodoros coriaceus) - CALIFORNIA - One male and 3 nymphs trapped by D. Irving, May 19, 1976, five miles northeast of Copperopolis on ranch in Calaveras County. Determined by E. Loomis. This is a new county record. (CA Coop. Rpt.).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

ICHNEUMONID WASPS - OKLAHOMA - Percent parasitism by Bathyplectes curculionis of Hypera postica (alfalfa weevil) larvae collected May 24-25 by county: Harper 70, Alfalfa 84, Major 88, and Dewey 89. (OK Coop. Sur.). WEST VIRGINIA - Diaparsis spp. recovered from Oulema melanopus (cereal leaf beetle) larvae collected from Washington Magisterial District, Pleasants County, May 18. (PPQ).

A MYMARID WASP (Anaphes flavipes) - Adults recovered from Oulema melanopus (cereal leaf beetle) eggs in all States below. KENTUCKY - From Fleming and Lewis Counties May 18 and from Shelby County May 20. (Sperka). INDIANA - From Olive Township, St. Joseph County, May 21. WEST VIRGINIA - From Sweet Springs Magisterial District, Monroe County, May 27. PENNSYLVANIA - From Monaghan (May 18), Warrington and Dove (May 19), Hepburn (May 21), and Gamble (May 24) Townships, York County. Collections from Clearfield Township, Cambria County, and Beccaria Township, Clearfield County, by K. Kadow May 26, 1976, are new county records; determined by J. Beach. NEW JERSEY - From Waterford Township, Camden County, by B. Emans April 23, 1976. Determined by P. DeWitt. This is a new county record. (PPQ).

A EULOPHID WASP (Tetrastichus julis) - Larvae recovered from Oulema melanopus (cereal leaf beetle) larvae taken in these States INDIANA - Collected from Monroe Township, Morgan County, by R. Heaton May 24, 1976. Determined by L. Leiser; confirmed by P. DeWitt. This is a new county record. VIRGINIA - From Stonewall Magisterial District, Highland County, May 20. MARYLAND - Near Flintstone, Allegany County, by W. Drosselmeyer May 25, 1976. Determined by P. DeWitt. This is a new State record. (PPQ).

BRACONID WASPS - OKLAHOMA - Lysiphlebus testaceipes parasitized 1-2 percent of Schizaphis graminum (greenbug) on young Wagoner County sorghum. (OK Coop. Sur.). **OHIO -** One Microctonus aethiopoides emerged May 18 from 62 Hypera postica (alfalfa weevil) adults collected in Shelby County by D.R. Lewis, April 28, 1976. This is a new county record. Determined by J.K. Flessel. (Lewis).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - KENTUCKY - Egg averages per square foot of oats by county: Bourbon 0.30, Fleming 1.4, Lewis 2.62, and Nicholas 0.35. Larvae exceeding eggs in most counties by 2 to 1. (Sperka). **OHIO -** Adults 0-4 per 100 sweeps of oats and larvae up to 0.8 per square foot in west area. (Lewis). **WEST VIRGINIA -** Third-instar larvae heavy on oats, about 30 per square foot, in Pleasants County. (Tustin). **VIRGINIA -** Larvae collected on oats by W.D. Jones and D.L. Barnes, May 20, 1976, at Dillwyn, Buckingham County, at Nathalie, Halifax County, and at Appomattox, Appomattox County. Larvae collected on wheat at Warsaw, Richmond County, by V. Hoyos, May 21. All determined by R.E. White. All are new county records. (PPQ). **MARYLAND -** Sub-economic but increased to 2 larvae per sweep on wheat in central counties. Population for 1976 heaviest on record with continued egg laying. (U. Md., Ent. Dept.). **PENNSYLVANIA -** Counts per 2 foot row by county: Butler and Crawford averages of 1-45 eggs and up to 10 larvae; Centre, Blair, and Perry up to 197 eggs, 53 larvae, and up to 18 adults per 20 sweeps. Larval damage declined due to cool temperatures. (Kim).

GRASSHOPPERS - OREGON - Aulocara ellioti and Ageneotettix deorum, Trimerotropis sp., and Cratypedes sp. up to 100 per square yard on 2,500-3,000 acres northeast of Adel, Lake County. Damaged wheatgrass plantings. Nymphs currently in third to fourth instar. (Goeden). **NEW MEXICO -** Main genera Melanoplus, Sanguinipes, and Aulocara. First through fourth instars infested about 30,000 acres of rangeland in McKinley and San Juan Counties. Hatched 27 per square yard, east of Raton, Colfax County. Hatched at Tatum and Caprock, Lea County. (NM Coop. Rpt.). **NORTH DAKOTA -** Late hatch continued in McKenzie and Slope Counties, mostly Melanoplus bivittatus and M. sanguinipes. Nymphs, first through fourth instars, 10-12 per square yard on crested wheatgrass, 2-3 per square yard on native range, and averaged 10-12 per square yard on alfalfa and crested wheatgrass hay land in Slope County; eggs 10 percent eyespot and 90 percent segmented on cropland. Nymphs, first through third instars, 20-30 per square yard on marginal areas of cropland in McKenzie County; eggs 44 percent eyespot and 56 percent segmented. Mostly M. bivittatus and M. sanguinipes nymphs averaged 4 per square yard in localized area of Kidder County rangeland; nymphs first through third instar. Mostly Camnula pellucida, M. bivittatus, and M. sanguinipes averaged 18 per square yard in localized rangelands in Sargent County; nymphs first through fourth instar. (Brandvik, Scholl).

GYPSY MOTH (Lymantria dispar) - MICHIGAN - First larvae April 20 in Isabella County. Slow leaf development on white oaks in areas scheduled for treatment may delay treatment. (Moore). CONNECTICUT - Larval feeding in some eastern areas, especially in area encompassed by Hampton, Brooklyn, Plainfield, Canterbury, and Scotland, Windham County. Feeding not so serious as in past years to date. (Savos). RHODE ISLAND - Larvae in second to early third instar in Providence County by May 21. Development generally slowed by cool weather statewide. Infested many Kent County residential trees. (Larmie).

MORMON CRICKET (Anabrus simplex) - UTAH - Outbreak in mouth of Oak Creek Canyon, Millard County. (Roberts). NEVADA - Nymphs up to 35 per square yard on 6,912 rangeland acres in Upper Dry Creek in Sulfur Spring Range, Elko County; treatments applied. (Kail). IDAHO - Baits applied at Midvale, Washington County. Baits and sprays applied on 2,500 acres each in Power County by May 18. Controls effective. Two bands of second and third instar nymphs found in Jackass Gulch. (Pollard).

SCREWORM (Cochliomyia hominivorax) - Total of 276 cases reported from continental U.S. May 16-22 as follows: Texas 273, New Mexico 1, Arizona 2. Total of 214 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 170 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 122,306,100 as follows: Texas 107,708,100; New Mexico 1,278,000; Arizona 13,320,000. Total of 15,450,300 sterile flies released within Barrier of Mexico. (Vet. Serv.).

WEEDS

DALMATIAN TOADFLAX (Linaria dalmatica) - CALIFORNIA - Three flowering plants discovered along railroad right-of-way next to State Highway 99 at Merced, Merced County, by D. Jolly, May 9, 1976. Identified by D. Barbe. This is a new county record. Eradication planned for this county. (CA Coop. Rpt.)

BLUE MUSTARD (Chorispora tenella) - CALIFORNIA - Detected along railroad tracks at Fresno, Fresno County, by B. Clayton and D. Griffin, May 6, 1976. Identified by D. Barbe. This is a new county record. Eradication planned. (CA Coop. Rpt.).

DETECTION

NEW STATE RECORDS

INSECTS

A BILLBUG (Sphenophorus cicatristriatus) - OREGON - Sherman County.
(p. 274).

A EULOPHID WASP (Tetrastichus julis) - MARYLAND - Allegany County.
(p. 282).

NEW COUNTY RECORDS

INSECTS

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - KANSAS - Ellis, Lyon,
Anderson, Wabaunsee (p. 276).

A BRACONID WASP (Microctonus aethiopoides) - OKLAHOMA - Shelby
(p. 283).

CEREAL LEAF BEETLE (Oulema melanopus) - VIRGINIA - Buckingham,
Halifax, Appomattox, Richmond (p. 283).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Morgan (p. 282).

HOLLYHOCK WEEVIL (Apion longirostre) - NEVADA - Elko (p. 280).

A MYMARID WASP (Anaphes flavipes) - PENNSYLVANIA - Cambria,
Clearfield; NEW JERSEY - Camden (p. 282).

A SOFTBACKED TICK (Ornithodoros coriaceus) - CALIFORNIA -
Calaveras (p. 282).

WEEDS

BLUE MUSTARD (Chorispora tenella) - CALIFORNIA - Fresno (p. 284).

DALMATIAN TOADFLAX (Linaria dalmatica) - CALIFORNIA - Merced
(p. 284).

CORRECTIONS

CPPR 1 (21):261 - GROUNDNUT BRUCHID (Caryedon serratus (Olivier)) -
Change fourth sentence to read, "No previous records in Puerto
Rico or the continental United States."

LIGHT TRAP COLLECTIONS

	Precip.	Temp.	Wind	Time	Type of	Light	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	122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WEATHER OF THE WEEK ENDING MAY 30

Reprinted from Weekly Weather and Crop Bulletin Supplied by
National Weather Service, NOAA.

HIGHLIGHTS: Unseasonably cool weather dominated most of the Nation, except for the Great Basin and northern portions of the Plains and Upper Great Lakes region. Thunderstorms lashed the Southeast and central United States, before subsiding at the end of the week contrasted little or no precipitation across much of the Southwest. Large hail and tornadoes accompanied the storm activity in central Texas. The gulf storm that cut a path across the Southeast over the weekend thundered out to sea Monday, bringing an end to heavy precipitation in the area. Charleston, South Carolina scored the highest 24-hour precipitation total, 5.5 inches of rain. Meantime, the frontal system branching off from the storm into the Mississippi Valley generated another significant moisture area.

TEMPERATURE AND PRECIPITATION: Most daytime precipitation occurred as showers and thundershowers in Arkansas and from central Mississippi into southern Louisiana. Some rain and drizzle lingered over central Kansas and parts of Nebraska, Missouri, and Idaho. In addition, rain was associated with a cold front along the north-west Pacific coast. During the day showers and thunderstorms were scattered in a broad band from Ohio and New York southward through the Carolinas, Georgia, and Florida. A far reaching storm area moved across the western Great Plains. Most intense rainfall focused on north-central northwest Texas, prompting issuance of a tornado watch. Around Amarillo golf ball-size hail fell, accumulating up to a foot deep in places. Light rain and showers persisted across the northern Rockies Lower Great Lakes region, and upper Ohio Valley. High pressure centers cleared Wednesday morning skies amid cool temperatures from the western Great Lakes region into the southern Appalachians. In Upper Michigan, the mercury hovered near or below freezing. Widespread thunderstorm activity in the south-central United States encompassed an area from the eastern two-thirds of Texas northward into Kansas and from Missouri and Arkansas into Mississippi and Alabama. In central Texas most the severe activity spawned 22 of 23 tornadoes reported across the Nation. Two fatalities and 7 injuries were the outcome of one twister that struck a mobile home in central Texas. Large hail accompanied almost countless thunderstorms in central and eastern Texas and spread into sections of northern Louisiana and southwest Arkansas. Elsewhere a weak weather disturbance generated some showers along the northern Pacific Coast. A few showers drizzled across the High Plains from Texas to North Dakota. On Thursday, the Pacific cold front triggered showers and thunderstorms ahead of it as it churned through the northern and central Plateau Region and the northern Rockies. Behind the front most rainfall came to end, through skies stayed cloudy.

In the evening, lines of eastward moving thunderstorms dropped large hail on eastern and central Nebraska. Stormy conditons ranged from these sections of Nebraska into the Dakotas and Minnesota. End-of-day showers also turned up in the middle Mississippi and lower Ohio Valley. Most of the Nation east of the Rockies basked under temperatures in the 70's and 80's on Friday, though readings in some interior sections of the Southwest pushed towards the 100 degree mark. Locally heavy and severe thunderstorms zeroed in on the

Southeast and the upper Mississippi Valley. Several tornadoes touched down in portions of Georgia and Tennessee. Persistent thundershowers on Saturday paved the way for a wet weekend from northern Georgia northward into New England. Except for some widely scattered showers from eastern Montana into central Colorado, dry conditions prevailed across the western United States. Associated with these isolated rainy spots, a dozen tornadoes struck central parts of the Nation. Five twisters gave Colorado the biggest share. On Sunday, rains finally subsided in the Southeast, though a few morning thundershowers still lingered over southern Florida along a stationary frontal system. Showers and thundershowers were scattered from the Great Lakes region into Texas. Only about a third of the Nation looked out on fair skies at the end of the week. Sunshine brightened the upper two-thirds of the Missouri Valley and the northern Plains. In the Southwest, clear skies stretched across the Great Basin, southern New Mexico, and sections of Texas. Another lucky area was from South Carolina and Florida through the lower Mississippi Valley in the Southeast. Sunday evening heavy thunderstorms struck the Tulsa, Oklahoma, area dropping 10 inches or more in less than 4 hours. Damage estimated at 12 million dollars.

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

JUNE 1976

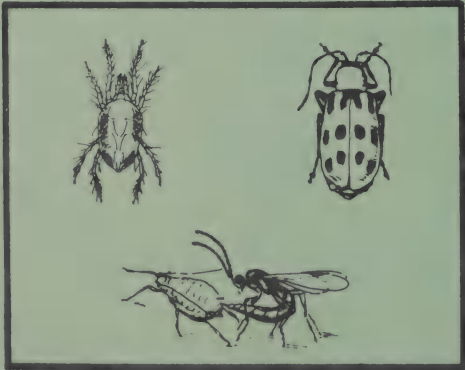
The National Weather Service's 30-day outlook for June is for temperatures to average below seasonal normals along the central Pacific coast and from the southern Great Plains to the south Atlantic coast. Above normal temperatures are indicated for most of the central and southern Plateau region and from the northern Great Plains to the upper Great Lakes. In unspecified areas near normal temperatures are in prospect. Less than the median precipitation amount is expected over the Great Plains, the upper Mississippi Valley, the upper Great Lakes, much of the gulf coast, and most of California. Elsewhere, more than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
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Cooperative PLANT PEST REPORT

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JUN 23 '76

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

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Plant Protection and Quarantine Programs
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Hyattsville, Maryland 20782

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Possible heavy outbreaks of ARMYWORM in New York. (p. 291).

BLACK CUTWORM damaged corn in parts of Ohio and Iowa. (p. 292).

GRASSHOPPER nymphs heavy in North and South Dakota. (p. 301).

Detection

For new county records, see page 302.

Reports in this issue are for the week ending June 4 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

DISEASES

ASTER YELLOWS VIRUS - WISCONSIN - Infected relatively high percentage of Macrosteles fascifrons (aster leafhopper). (WI Pest Sur.). See ASTER LEAFHOPPER under this section.

CURLY TOP VIRUS - CALIFORNIA - In less than one percent of sugar beets, tomatoes, and cantaloups checked. Harvest of sugar beets has begun and tomatoes will follow shortly. (CA Coop. Rpt.). See BET LEAFHOPPER under this section.

INSECTS

ARMYWORM (Pseudaletia unipuncta) - IOWA - Larvae damaged reduced-tillage corn in Union County, Dubuque, Dubuque County, and Davenport, Scott County. Damage increase expected. (DeWitt). INDIANA - Cut some wheat heads in several Sullivan County fields; treatments needed. Severely damaged 30-acre corn field planted on turned-down rye in Rush County. (Sillings). MARYLAND - Light statewide with isolated outbreaks; clipped 33 percent of barley heads on 20 acres at Sudlersville, Queen Annes County; 40 acres of corn in Dorchester County sprayed; economic on some wheat in Caroline County. (U. Md., Ent. Dept.). NEW YORK - Heavy in light traps up to week ending June 1. Catch at Geneva, Ontario County, 10 times heavier than average for 1974 and 1975. Heavy outbreaks on small grains and corn serious possibility. (NY Wkly. Rpt.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Ranged 24-44 per 100 sweeps of oats in south-central, southwest, west-central, and central areas. Also on peas and alfalfa. (WI Pest Sur.). NORTH DAKOTA - Spring migrants 3-4 per 100 sweeps on Traill County barley. (Scholl). See ASTER YELLOWS VIRUS under this section.

BET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - About 36,753 acres sprayed this spring. (CA Coop. Rpt.). See CURLY TOP VIRUS under this section.

CORN LEAF APHID (Rhopalosiphum maidis) - FLORIDA - Heavy on 2-foot sorghum near Williston, Levy County, and Trenton, Gilchrist County. (FL Coop. Sur.). VIRGINIA - Fed on heads of small grain in Loudoun and several other counties in upper Shenandoah Valley. (Allen). NEBRASKA - Winged adults on corn whorls with 10 to 12-inch extended leaf in York, Merrick, and Fillmore Counties. (Raun).

GREENBUG (Schizaphis graminum) - NEVADA - This species and Macrosiphum avenae (English grain aphid) averaged 12 per sweep on winter wheat at Fallon, Churchill County. (Hilbig, Knight). NEBRASKA - Many infestations on susceptible and resistant sorghum varieties damaged susceptible and at least one resistant variety. (Keith, Miller). Averaged 2 winged adults and 7 nymphs per plant in 2 susceptible fields and 4 resistant fields in Saline County. All plants in 2 leaf stage. Treatment needed on susceptible varieties. (Emal).

POTATO LEAFHOPPER (Empoasca fabae) - OHIO - Adults per 100 sweeps of alfalfa by county: Tuscarawas, Harrison, and Guernsey 1-16; Medina 8-12. (Lewis, Miller). WISCONSIN - Up to 8 per 100 sweeps of alfalfa in south-central and southwest areas. No nymphs. (WI Pest Sur.).

TOBACCO BUDWORM (Heliothis virescens) - NORTH CAROLINA - Infested 30 percent of tobacco in 187 Bladen County fields. Most frequent infestation level 3 percent; 21 fields at or above threshold level. Controls adequate. (Kirby et al.).

CORN, SORGHUM, SUGARCANE

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Fewer than 5 per night in most traps statewide. (U. Md., Ent. Dept.). NEW YORK - First blacklight catch of adults in Hudson Valley, Ulster County, May 14-15, seven days earlier than first catch in 1975. (Straub). Adults 203 in combined incandescent and blacklight trap May 29 to June 1 in Ontario County. (Chapman, Kienk). WISCONSIN - Increased slightly in blacklight traps particularly on warmer nights. Dissections of cornstalks at Brodhead, Green County, had 8 percent larvae, 84 percent pupae, and 8 percent emerged. (WI Pest Sur.).

BLACK CUTWORM (Agrotis ipsilon) - OHIO - Fifth and sixth instars severely damaged 30-acre Wayne County corn field. Damage averaged 42 percent. Crop loss estimated at 60 percent. (Rings). INDIANA - Larvae trace in almost every corn field in 9,000 acres in Clinton and Carroll Counties. (Anderson). IOWA - Damaging counts increased on 4 to 7-inch corn in Jasper, Clinton, Hamilton, Story, Worth, Union, and Green Counties, at Dubuque, Dubuque County, and Davenport, Scott County. Larvae 0.5-1 inch long. Stand reduction 3-50 percent in spots. Treatments applied; some replanting underway. More damage expected next 7 days. (DeWitt). NEBRASKA - Fed on 0.5 percent of 2 fields of 12-inch corn in Hall County. Corn about two-thirds grown. (Raun).

FALL ARMYWORM (Spodoptera frugiperda) - NORTH CAROLINA - Larval damage on corn May 28 at Holly Ridge, Pender County. Whorl damage severe in small, scattered spots over field. Larvae third through fifth instar. Detection before mid-July in State is rare. (Greene).

TOBACCO THRIPS (Frankliniella fusca) - NORTH CAROLINA - Mostly this species and Anaphothrips obscurus (grass thrips) injured corn blades in most Piedmont Counties. Damaged all plants in 4 fields. (Hunt).

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - Heavier than usual on field corn in Jackson County. (FL Coop. Sur.).

SMALL GRAINS

DISEASES

LOOSE SMUT (Ustilago nuda) - WEST VIRGINIA - Infected 1-2 barley plants per 10 feet of row in Hampshire County field May 26. (Taylor). MICHIGAN - Smutted heads readily visible emerging from boot stage ending May 28. Infected wheat plants a total loss. Disease indicates lack of seed treatment. (Smith).

NET BLOTCH OF BARLEY (Pyrenophora teres) - WEST VIRGINIA - All barley plants infected with more than 50 percent of leaf area lost in Pendleton County field May 25. (Taylor).

GLUME BLOTCH (Septoria nodorum) - KENTUCKY - Appeared in many wheat fields statewide. (Stuckey).

WHEAT SPINDLE STREAK MOSAIC VIRUS - MICHIGAN - Symptoms visible even in topmost and flag leaves of wheat plants in some fields in central and southeastern area week ending May 28. (Smith).

TURF, PASTURES, RANGELAND

INSECTS

GRASS BUGS - UTAH - Counts and damage moderate to severe in large areas of planted range grasses in Garfield County; 4,000 acres treated at Alton, Kane County. (Matthews). WYOMING - Labops hesperius 50 per square yard in Niobrara County and 50-80 per square yard in Campbell County week ending May 28. (Eaton).

WESTERN TENT CATERPILLAR (Malacosoma californicum) - NEVADA - Up to half-grown larvae averaged 8 per stem on scattered bitterbrush plants on 400+ acres of rangeland in Paradise Valley, Humboldt County. (Rowe).

FORAGE LEGUMES

DISEASES

COMMON LEAF SPOT (Pseudopeziza medicaginis) - WISCONSIN - Symptoms in many alfalfa fields statewide. Early cutting recommended. (WI Pest Sur.).

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEVADA - Heaviest counts averaged 15 larvae per sweep of untreated hay alfalfa at Fallon, Churchill County. (Hilbig, Knight). UTAH - Damaged forage in Tooele County. Some treatments or early cuttings. (Jacobson). COLORADO - Averages per 10 sweeps of alfalfa by county: Larimer 14 adults and 73 larvae; Phillips 30 larvae. (Simpson, Hantsbarger). WYOMING - Heavy south of Worland, Washakie County, week ending May 28. Eggs heavy in many alfalfa stems in fields near Riverton, Fremont County. (Burkhardt).

NEBRASKA - Alfalfa weevil averages per 100 sweeps of alfalfa by county: Otoe 482 larvae, 8.9 adults; Dawson cut fields - 83.6 larvae, 50 percent of fields cut, regrowth 6-12 inches tall, uncut fields - 478.7 larvae, tip feeding less than 5 to 50 percent, 0.4 adults; Dundy activity trace, most larvae in first or second instar, alfalfa blooming; Lincoln, Keith, Custer, Logan, and Dawson Counties 800 larvae up to third instar, tip feeding less than one percent, some fields being cut. (Manglitz et al.).

IOWA - Alfalfa weevil damage by second to last instars on alfalfa in Plymouth and Boone Counties. Most fields being cut. (DeWitt). WISCONSIN - Larvae 30-1,200 per 100 sweeps of alfalfa in south-central, southwest, west-central, and central areas. (WI Pest Sur.).

OHIO - Alfalfa weevil larvae decreasing as pupae and new adults increase in forage legumes statewide. Damage moderate, 30-75 percent, in uncut fields in east-central counties; larvae 180-572 per 100 sweeps. Regrowth up to 4 inches in cut fields with very little feeding; larvae 8-43 per 100 sweeps. (Lewis). NEW YORK - Percent tip damage 30-40 and larvae 5 per sweep of forage May 27 in Niagara County. Larvae up to third instar. (Herendeen, Willson). Larvae currently 3 per sweep in Oneida County. (Field).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - UTAH - Taken on alfalfa at Mt. Carmel, Kane County, by R.S. Roberts, May 28, 1976. Determined by G.F. Knowlton. This is a new county record. (Roberts, Knowlton). Damage severe in some Kanab, Kane County, alfalfa fields. (Matthews). NEVADA - This species and A. pisum (pea aphid) heaviest on untreated hay alfalfa at Fallon, Churchill County, averaged 30 per sweep except for field which averaged 100+ per sweep. (Hilbig, Knight).

MEADOW SPITTLEBUG (Philaenus spumarius) - WISCONSIN - Spittle masses readily found on alfalfa and other crops throughout State. A high count of 6 spittlebugs per 10 alfalfa stems in Walworth County. (WI Pest Sur.).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - Mines 15-30 per alfalfa stem and adults up to 2 per sweep in several Centre County fields. About 10 percent of mines with pupae and many larvae dead, apparently due to cool wet weather. (Shetlar). NEW YORK - Feeding pinholes and egg-laying punctures May 20 in Tompkins County. (Muka). Adults very heavy in Oneida County. (Field). MASSACHUSETTS - Feeding and egg-laying punctures on alfalfa at South Deerfield, Franklin County. (Weeks, Richman).

SOYBEANS

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Overwintering adults began to appear on soybeans in Somerset and Wicomico Counties. Adults about 2 weeks late statewide. (U. Md., Ent. Dept.).

PEANUTS

DISEASES

ROOT OR STEM ROT (Rhizoctonia solani) - FLORIDA - Statewide on peanuts. Infected significant percent of plants in field near Malone, Jackson County. (FL Coop. Sur.).

INSECTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - FLORIDA - Larvae infested about 300 of 800 acres of peanuts in western Alachua County, problem worst in whitest sandy soil. Controls applied. (FL Coop. Sur.).

GRANULATE CUTWORM (Feltia subterranea) - ALABAMA - All stages, averaged one per 3 feet of row, on 300 peanut acres on farm at Newton, Dale County. (Hubbard et al.).

TOBACCO THRIPS (*Frankliniella fusca*) - FLORIDA - Averaged 14 per bud on untreated peanuts, all plants with foliar damage; averaged 1-3 per bud on treated plants near Greenwood, Jackson County. (FL Coop. Sur.).

COTTON

INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - GEORGIA - Grandlure baited traps in Crisp, Turner, and Tift Counties yielded 45, 298, and 6 weevils, respectively, week ending May 29. In-field catches were 89 weevils in 16 Dooly County traps and 204 in 24 Dodge County traps. One weevil in 500 row feet of Dodge County cotton.

(Lambert). ALABAMA - Emerging adults increased, not as heavy as in 1974-1975. Cotton late and not attractive to weevils. Weevils 0-50 per acre on 6 to 10-leaf cotton on 3 Monroe County farms. (Gamble). Ranged 4-10 per acre on 5 to 7-leaf cotton in 3 Covington County fields. (Pike). Sex-lure trapping heavy in Colbert County, 19 taken in 25 traps on farm week ending June 1. (Potter). MISSISSIPPI - Emerging weevils averaged 19 per sex-lure trap April 9 to June 1 in Oktibbeha and Clay Counties near fields with 1975 cotton. Traps 2-4 miles from nearest cotton field averaged 3.4 weevils per trap for this period. (Cross).

TENNESSEE - Very little terminal bud feeding in normally heavily infested western areas. Not as many adults found as compared with this time last year. (Locke). Overwintered adults in 104 traps by county: Hardin 3, McNairy 75, Hardeman 87, Fayette 159, Shelby 68, Tipton 12, Haywood 96, Madison 187, Gibson 49, Crockett 78, Dyer 48, Lauderdale 91, Franklin 4, and Lincoln one. (Gordon).

TWOSPOTTED SPIDER MITE (*Tetranychus urticae*) - MISSISSIPPI - Heavy along edges of 50-acre Monroe County cotton field. (Gammill et al.). ALABAMA - Damaging counts of this species and *T. turkestan*i (strawberry spider mite) along many cotton field borders in Colbert, Lauderdale, and Cherokee Counties and in one Dale County field. Mostly *T. turkestan*i in Dale County field. (Rose et al.).

TOBACCO

DISEASES

POTATO VIRUS Y - FLORIDA - Continued common where aphids abundant on tobacco. (FL Coop. Sur.). See GREEN PEACH APHID under this section.

INSECTS

GREEN PEACH APHID (*Myzus persicae*) - FLORIDA - Averaged 641 per plant, heaviest since 1970 and increasing on untreated flue-cure tobacco at Live Oak, Suwanee County, May 26. Still some trouble on cigar-wrapper tobacco in some shades at Quincy, Gadsden County. (FL Coop. Sur.). See POTATO VIRUS Y under this section.

POTATOES, TOMATOES, PEPPERS

DISEASES

BLACK LEG (*Erwinia atroseptica*) - TENNESSEE - Sporadic infestations on potatoes in middle and west areas. (Bogard et al.).

EARLY BLIGHT (*Alternaria solani*) - TENNESSEE - Observed on tomatoes in Davidson County. (Sauve et al.).

FUSARIUM WILT (*Fusarium oxysporum*) - TENNESSEE - Observed on tomatoes in Davidson County. (Kelly et al.).

INSECTS

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - FLORIDA - Larvae and adults collected on potatoes one mile west of Putnam Hall, Putnam County, by L.A. Longhi, May 26, 1976. Determined by R.E. Woodruff. This is a new county record. (FL Coop. Sur.). GEORGIA - Infested commercial tomatoes in Tift County week ending May 28. (Poole, Barry). OHIO - Adults very heavy on 3 to 4-inch potatoes and transplanted tomato plants in Wayne County. (Rings, Goff). DELAWARE - Eggs hatched on potatoes and tomatoes statewide. (Burbutis, Kelsey). MASSACHUSETTS - Adult feeding heavy on tomato plants in Hampden County. (Adams).

POTATO FLEA BEETLE (*Epitrix cucumeris*) - MASSACHUSETTS - Adults heavy on tomatoes in Hampden County. "Shot hole" feeding damage caused yellowing and dying foliage. (Adams).

COLE CROPS

INSECTS

CABBAGE MAGGOT (*Hylemya brassicae*) - UTAH - Severe on cabbage, turnips, and radishes in Salt Lake and Davis Counties. (Burningham). MAINE - Problem increased on vegetables across central and southern areas week of May 31. (Gall).

DECIDUOUS FRUITS AND NUTS

DISEASES

FIRE BLIGHT (*Erwinia amylovora*) - WEST VIRGINIA - Infected apple blossoms and terminals in Jefferson County May 25. (Albert). NEW JERSEY - Very severe in many apple blocks of susceptible varieties. (Ins.-Dis. Newsltr.)

APPLE SCAB (*Venturia inaequalis*) - MICHIGAN - Spore discharge tests with leaves collected from 2 southwest locations May 26 showed many ascospores will discharge with next good rain. Primary infection on apples and crabapples generally light. Secondary spread on untreated trees could be significant if wet weather develops. (Jones et al.). WEST VIRGINIA - About 63 percent of asci with mature ascospores discharged May 25, remaining asci about 11 percent mature and colored, 3-4 percent formed but colorless, and rest in various stages of development. Possibility of primary spore discharge through June. Few primary foliage lesions in sprayed Red Delicious, Stayman, and Rome blocks. (Albert).

APPLE POWDERY MILDEW (*Podosphaera* spp.) - WEST VIRGINIA - Heavy secondary foliage lesions on Jonathan and Rome apples but to a lesser degree on Stayman in Jefferson County May 25. (Albert). MICHIGAN - Secondary lesions of *P. leucotricha* in increasing numbers week ending May 28. Weather more favorable for primary and secondary spread. (Jones, Ehret).

BLACK KNOT (*Dibotryon morbosum*) - MICHIGAN - Plenty of primary inoculum left week ending May 28. Knots from 1975 infections visible on fruit trees now and expanding rapidly. (Jones, Ehret).

CHERRY LEAFSPOT (*Coccomyces hiemalis*) - MICHIGAN - High spore trap catches of ascospores at Hart and Shelby, Oceana County, and Traverse City, Grand Traverse County, week ending May 28. Discharge should continue at high levels for few weeks. Light primary infections on sweet cherry at Traverse City. (Jones, Ehret).

BROWN ROT (*Monilinia fructicola*) - TENNESSEE - On fruit of peach and purple-leaved plum in Davidson County. Controls needed to protect ripening fruit. (Sauve, Kelly).

BLUEBERRY STUNT VIRUS - NEW JERSEY - Spreading again in many areas, particularly in Weymouth and Bluecrop blueberry varieties. Especially serious where regular roguing not practiced. Spraying for *Scaphytopius magdalensis* (a leafhopper) without roguing ineffective. (Ins.-Dis. Newsltr.).

INSECTS

CODLING MOTH (*Laspeyresia pomonella*) - NEW YORK - First pheromone trap catch of adults in Wayne County May 27. (Tette). MICHIGAN - First-generation adults in pheromone traps in almost all pest management orchards week ending May 28. Hatch in southwest area predicted June 1-3. (Olsen).

ORIENTAL FRUIT MOTH (*Grapholitha molesta*) - MICHIGAN - Adults very heavy, 127 per trap, at Fennville, Allegan County, May 25; fewer in rest of State. (Olsen).

PLUM CURCULIO (*Conotrachelus nenuphar*) - NEW HAMPSHIRE - Adults very active laying eggs in apple orchards in Rockingham County, averaged about 25 per standard tree. (Fisher). MAINE - Out of hibernation week of May 31; few feeding scars on apples. (Gall).

WHITE APPLE LEAFHOPPER (*Typhlocyba pomaria*) - WASHINGTON - Stippling of foliage by nymphs and first-generation adults moderate to severe in unsprayed apple orchards at Parker, Yakima County, week of May 29. (Johnson, Hudson).

BLACK CHERRY APHID (*Myzus cerasi*) - OHIO - Heavy on sweet, sour, and ornamental cherry trees in central area. Curled and yellowed leaves. Completely discolored trees in severe cases. (Barth, Miller).

EUROPEAN RED MITE (*Panonychus ulmi*) - MAINE - Began maturing on apples at Highmoor May 29 when many mating pairs observed and few newly deposited "summer" eggs, about 4 days earlier than average but 3 days later than in 1975. (Gall).

PECAN PHYLLOXERA (*Phylloxera devastatrix*) - MISSISSIPPI - Heavy on pecan trees in Coahoma, Sharkey, Holmes, Neshoba, Newton, Issaquena, and Washington Counties. Heaviest on susceptible unsprayed trees. (Neel).

ORNAMENTALS

DISEASES

CITRUS NEMATODE (Tylenchulus semipenetrans) - FLORIDA - Wild population or "grass strain" taken from Sabal palmetto (cabbage palm) during April at Baker, Okaloosa County, northernmost location for this nematode. (Tri-ology).

LEAF AND STEM GALL (Exobasidium vaccinii) - TENNESSEE - Heavy on Davidson County azaleas. (Sauve, Kelly).

INSECTS

A GEOMETRID MOTH (Coryphista meadii) - CALIFORNIA - Larvae defoliated Oregongrape shrubs nursery stock at Modesto, Stanislaus County. (CA Coop. Rpt.). NEVADA - Larvae heavily damaged Oregongrape at Reno and Sparks, Washoe County. (NV Coop. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - DELAWARE - Young larvae active on many trees statewide. (Burbutis, Kelsey). NEW JERSEY - Increased in south counties. (Ins.-Dis. Newsltr.).

FOREST AND SHADE TREES

DISEASES

DUTCH ELM DISEASE (Ceratocystis ulmi) - DELAWARE - Diagnosed on several elms at Newark, New Castle County, somewhat earlier than in most seasons. (Carroll).

OAK ANTHRACNOSE (Gnomonia quercina) - WISCONSIN - Infected leaves on lower third of white oaks at Bristol, Dane County. (WI Pest Sur.).

SYCAMORE ANTHRACNOSE (Gnomonia platani) - KENTUCKY - Again prevalent this spring. Infected second-growth leaves recovering from frost kill. (Hartman).

INSECTS

SPRUCE BUDWORM (Choristoneura fumiferana) - MAINE - Mostly third instar, especially in north area week of May 31. Toward the south, in southern Aroostook County, most larvae in peak of fourth instar with some fifth instars (10-20 percent) noted. Aerial spraying began May 30 in Washington County. (Gall).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - PENNSYLVANIA - Adults emerging from Scotch pine stand at State College, Centre County. Damaged about 30 percent of new shoots. (Shetlar).

AN ARMORED SCALE (Fiorinia externa) - PENNSYLVANIA - Adults, eggs, and crawlers heavily infested several 50 to 70-foot hemlock trees in Lycoming County May 21, 1976. Collected by R. Wielner. Determined by J. Stimmel. This is a new county record. (Kim).

SPRING CANKERWORM (Paleacrita vernata) - NORTH DAKOTA - This species and Alsophila pometaria (fall cankerworm) defoliated 30-80 percent of single row Siberian elm shelterbelts in Dunn and Golden Valley Counties. (Brandvik). Second to fourth-instar larvae heavily infested Siberian elms in Pembina County; defoliation up to 100 percent. (Elichuk et al.).

A TORTRICID MOTH (Archips negundanus) - UTAH - Defoliated 40-95 percent of many boxelder trees at Logan and mouth of Wellsville Canyon, and 5-40 percent of some trees at Providence, Millville, and Paradise, Cache County. (Knowlton).

LILAC BORER (Podosesia syringae) - UTAH - Continued major pest of ash trees in Salt Lake County, with some Davis County areas damaged (Burningham) and some injury in Utah County (Knowlton).

LOCUST LEAFMINER (Odontota dorsalis) - WEST VIRGINIA - Adults heavy on foliage of black locust trees in Jackson and Kanawha Counties. Complete defoliation probable again this year. (Cole).

ASH PLANT BUG (Tropidosteptes amoenus) - WISCONSIN - Very heavy on ornamental ash in Jackson County. Leaf drop heavy. (WI Pest Sur.).

A CYNIPID WASP (Andricus coronus) - ALABAMA - Galls very heavy on willow oak tree at residence in Gunterville, Marshall County. Collected by F. Wood, April 2, 1976. Determined by A.S. Menke. This is a new county record. (McQueen).

BIRCH LEAFMINER (Fenusa pusilla) - WISCONSIN - Mining began May 30 in Langlade and Marinette Counties. Laying eggs in Lincoln County. Counts heavy in Chippewa, Lincoln, and Langlade Counties. (WI Pest Sur.). RHODE ISLAND - Heaviest statewide infestation in past 6 years. (Chaves et al.).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - NEBRASKA - Ranged 20-300+ per head on untreated cattle in Custer, Lincoln, and McPherson Counties. (Campbell). WISCONSIN - Generally light. Up to 50 per side on some Eau Claire County beef cattle. (WI Pest Sur.). FLORIDA - Averages per head by county: Osceola at least 1,000 on 30 Brahma breeder bulls at Kissimmee; Alachua 164 in small beef herd at Gainesville. (FL Coop. Sur.).

FACE FLY (Musca autumnalis) - NEBRASKA - Ranged 0-3 per face on cattle in Custer, Lincoln, and McPherson Counties. (Campbell). TENNESSEE - Ranged 10-20 per head on cattle in Smith and Trousdale Counties. (Gregory). NEW HAMPSHIRE - Ranged 2-3 per head on horses and 5 on beef cattle near dairy barns at Durham, Strafford County. (Burger).

MOSQUITOES - WISCONSIN - Light in well-drained upland areas and very heavy near permanent wetlands. Aedes cinereus and A. sticticus major biters along Black River in La Crosse County. (WI Pest Sur.). MASSACHUSETTS - Many bite complaints at Amherst, Hampshire County, particularly at dusk. Mostly due to A. vexans. Mostly A. vexans, some Anopheles punctipennis, and some Culex restuans in light traps at Hadley, Hampshire County. (Edman). Freshwater spring-brood mosquitoes biting worse in Middlesex County; some larvae. (Armstrong).

BLACK FLIES - IOWA - Simulium spp. continued to annoy humans in Hardin, Ringgold, and Appanoose Counties. (DeWitt). WISCONSIN - Black flies very annoying in some localities. Annoyance severe in Iron County and moderate in portions of Eau Claire County. (WI Pest Sur.). WEST VIRGINIA - Simulium sp. numerous and annoying people at Pipestem State Park, Summers County. (Hacker). NEW HAMPSHIRE - Black flies increased, 10-15 circling overhead, in Waterville Valley, Grafton County, and Dixville, Coos County. Prosimulium mixtum comprises 90 percent of annoyance in these areas; S. venustum about 10 percent. (Burger).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A MYMARID WASP (Anaphes flavipes) - Adults recovered from Oulema melanopus (cereal leaf beetle) eggs collected from oats in these States. INDIANA - Collected from Jackson Township, Dearborn County, by J. Carroll and B. Sproate May 24, 1976. From Jackson Township, Huntington County, by H. Bollinger and L. Porter, May 27. OHIO - From Plain Township, Wood County, June 2, 1976, by W. Brown. All determined by P. DeWitt. PENNSYLVANIA - From Henry Clay Township, Fayette County, and Thompson Township, Fulton County, June 3, 1976. Collected and determined by R. Dysart. New county records for all 3 States above. WEST VIRGINIA - From Tygart and Harris Magisterial Districts, Wood County, May 21 and 24, respectively. MICHIGAN - From Garfield, Norwich, and Sheridan Townships, Newaygo County, June 1, 1976. INDIANA - From Lawrenceburg Township, Dearborn County, June 2, 1976. MARYLAND - Near Cecilton, Cecil County, June 3, 1976. NEW YORK - From Hopewell Township, Ontario County. (PPQ).

A EULOPHID WASP (Tetrastichus julis) - Larvae recovered from Oulema melanopus (cereal leaf beetle) larvae collected from oats in these States. INDIANA - From Eel River Township, Hendricks County, May 27, 1976, by L. Leiser and Harrison Township, Pulaski County, June 3, 1976, by G. Teresinski. Determined by V. Montgomery. From Laramie Township, Tippecanoe County, June 2, 1976, by G. Teresinski. Determined by P. DeWitt. These are all new county records. PENNSYLVANIA - From field insectaries in Ferguson Township, Centre County, May 27, and in North Shenango Township, Crawford County, June 2. MICHIGAN - From Garfield Township, Newaygo County, June 1. (PPQ).

ICHNEUMONID WASPS (Diaparsis spp.) - PENNSYLVANIA - Recovered from Oulema melanopus (cereal leaf beetle) larvae collected from oats in North Shenango County Township field insectary, Crawford County, June 2. (PPQ).

A LEAF BEETLE (Gastrophysa polygoni) - NEBRASKA - Adults, larvae, and eggs heavy on Polygonum aviculare (prostrate knotweed) in Gage County. Feeding damage moderate to severe. (Keith, Miller).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - VIRGINIA - Larvae collected on wheat by V. Hoyos, May 28, 1976, at Lively, Lancaster County, and at Wicomico Church, Northumberland County. Determined by R.E. White. These are new county records. (PPQ). WEST VIRGINIA - Averages per square foot of oats by county May 26: Monroe 6 eggs, 24 larvae (mostly second and third instars); Fayette and Nicholas fewer than one larva; Pocahontas 9 larvae, and Greenbrier 6 larvae. (Faulk, Bostic). OHIO - Adults 0-36 per 100 sweeps in random oat fields in east-central area. Larval feeding damage significant in 2 of 5 fields. Larvae averaged 6 per square foot. Treatments applied in Coshocton County. (Lewis). NEW YORK - Cool, wet weather appears to have slowed development. First and second instars and eggs on 4 to 10-inch oats in Tompkins County. Second instars in Niagara County May 27. (NY Wkly. Rpt.).

GRASSHOPPERS - CALIFORNIA - Heavy invasion of early instar nymphs into sugar beet fields from adjacent rangelands at Farmington, San Joaquin County. (CA Coop. Rpt.). NEVADA - Oedaleonotus enigma, 5 percent adults and 95 percent nymphs (mostly third and fourth instar), averaged 5 per square yard on 300 acres of rangeland in Eldorado Canyon, Humboldt Range, Pershing County. (Kail et al.). UTAH - Grasshopper hatch in Garfield County moderate. Some hatch generally in Cache, Box Elder, and Salt Lake Counties. (Matthews, Knowlton). WYOMING - First instars of Amphitornus coloradus and Melanoplus spp. per yard by county week ending May 28: Big Horn 12, Washakie 10 (some second instars), Park 18, Fremont 13-27, Ageneotettix deorum and Melanoplus spp. per square yard by county: Niobrara 18-20 (some second instars), Weston 5-10. A. deorum and Cordillacris occipitalis 10-25 first instars per square yard in Sheridan County. Melanoplus spp. 20 first instars per square yard in Campbell County. (Eaton).

NEBRASKA - Grasshopper nymphs averaged 7.5 per square yard in pastures in Dawes and Sioux Counties. (Hagen). SOUTH DAKOTA - First to third instars up to 250 per square yard on roadsides in Day County. Hatching underway in some areas. (Walgenbach). NORTH DAKOTA - Grasshopper hatch continued in Golden Valley, Billings, and Slope Counties. Economic, up to 30 per square yard, in crested wheatgrass rangeland in Billings and Slope Counties. Development first through fourth instar with many species. (Brandvik).

GYPSY MOTH (Lymantria dispar) - MAINE - Larvae very light but widespread in many south areas week of May 31. Some feeding on elms. (Gall).

JAPANESE BEETLE (Popillia japonica) - MAINE - Grubs 40+ per square foot on golf course in Cumberland County week of May 31. (Gall).

MORMON CRICKET (Anabrus simplex) - NEVADA - Adult averages per square yard of rangeland in Pershing County: 2 on 300 acres in Eldorado Canyon and one on 300 acres in Wright Canyon, Humboldt Range. (Kail et al.). UTAH - Hatched at Vernon, Tooele County. (Jacobson). IDAHO - Heavy bands in Washington County May 28 at

West Pine Creek, Sage Creek, Spring Creek south of Mann Creek Reservoir, Spring Creek on Washington and Gem County lines, and Bennett and Demmett Creeks on the Snake River side May 28. Mormon crickets appeared throughout Deep Creek Mountains in areas accessible only by helicopter; treatments planned when crickets move to more convenient locations. Bands dispersed to noneconomic levels at Jackass Gulch, Gem County. Mormon cricket sites in Malad range northeast and southeast of Malad City, Oneida County. (Pollard).

DETECTION

NEW COUNTY RECORDS

INSECTS

AN ARMORED SCALE (Fiorinia externa) - PENNSYLVANIA - Lycoming (p. 298).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - UTAH - Kane (p. 294).

CEREAL LEAF BEETLE (Oulema melanopus) - VIRGINIA - Lancaster, Northumberland (p. 301).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - FLORIDA - Putnam (p. 296).

A CYNIPID WASP (Andricus coronus) - ALABAMA - Marshall (p. 299).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Hendricks, Pulaski, Tippecanoe. (p. 300).

A MYMARID WASP (Anaphes flavipes) - INDIANA - Dearborn, Huntington; OHIO - Wood; PENNSYLVANIA - Fayette, Fulton (p. 300).

HAWAII PEST REPORT

General Vegetables - DIAMONDBACK MOTH (Plutella xylostella) counts and damage generally heavy on one acre each of head cabbage (5-20 larvae and pupae per plant) and Chinese cabbage (1-10 larvae and pupae per plant) at Waimea, Hawaii. All heads surveyed infested; 0.25 acre of Chinese cabbage abandoned before harvesting and 0.1 acre of head cabbage lost due to larval damage. Parasitism by Diadegma insularis (an ichneumonid wasp) moderate. GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) heavy on acre of pole beans and weed hosts at Holualoa and Kealahou, Hawaii Island. Nymphs and adults infested more than 80 percent of bean leaves. Moderate on 5,000 square feet of chrysanthemums (50 percent of foliage infested) at Kainaliu. Light on one acre of tomato, 2 acres of pole beans, and one acre of cucumber at Kainaliu and Kealahou, Hawaii. Damage generally light on all crops due to regular treatments. LEAFMINER FLIES (Liriomyza spp.) counts and damage moderate to heavy on 2 acres of beans and one acre each of tomato and cucumber at Kainaliu and Kealahou. Heavily mined 20-80 percent of leaves. CORN EARWORM (Heliothis zea), BLACK CUTWORM (Agrotis ipsilon), and VARIEGATED CUTWORM (Peridroma saucia) moderate on 2 acres of daikon at Waimea, Hawaii. More than 30 percent of plants infested by 1-2 larvae of each species per plant. Damage light. (Yoshioka, Nakahara).

Forest and Shade Trees - A BARK BEETLE (Xylosandrus compactus) light and sporadic on Diospyros ferrea (luma) at Waihale and Kamoamoa in Hawaii Volcanoes National Park, Hawaii Island. Adults 1-2 per twig on 1-4 twigs per tree. (Davis).

Fruits and Nuts - BANANA SKIPPER (Erionota thrax) counts and damage light on banana during May in North and Westside communities on Kauai. Damage on 25 of 428 trees. (Sugawa).

Beneficial Insects - One adult of a TINGID BUG (Leptobyrsa decora) collected from Verbena sp. at 2,500 feet elevation at Kaloko, Hawaii Island, on May 26, 1976. First recovery of this lantana bio-control agent on Hawaii Island since its release on this island. (Yoshioka, Nakahara).

LIGHT TRAP COLLECTIONS

[illegible]

WEATHER OF THE WEEK ENDING JUNE 6

Reprinted from Weekly Weather and Crop Bulletin Supplied by National Weather Service, NOAA.

HIGHLIGHTS: Locally heavy rains, gusty winds, and hail accompanied widespread storm activity that thundered across the central United States during the week. Precipitation encompassed most of the area between the Mississippi River and the Continental Divide and in the Southeast churned up some locally severe weather. In general, the tornadoes that skipped across many States caused little or no damage. Unseasonably cool air produced record low readings in the eastern third of the Nation, the central and southern Great Plains, and the Pacific Northwest. Thanks to a warming trend, the rest of Nation averaged temperatures up to 15 degrees above normal.

TEMPERATURE AND PRECIPITATION: Thunderstorms that closed out a rainy week across much of the Nation returned on Monday to the lower Mississippi and Ohio Valleys. Showery unseasonably cool weather dominated the Pacific Northwest where light rains persisted in the northern halves of the Intermountain region and Rockies. Meantime, a few showers and thundershowers drifted slowly northward out of the Texas panhandle and northwest Oklahoma into southeast Colorado and southwest Kansas. In the afternoon, tornadoes whirled across parts of Texas and Illinois. Forecasters kept an eye on funnel clouds in Indiana, Missouri, and Mississippi. Locally heavy rains and gusty winds stirred up trouble in West Virginia, Louisiana, and Alabama. Though evening storm activity waned over most sections of the country three tornadoes swooped down in Texas and golf ball-size hail pelted the central areas. Midwest thunderstorms roamed across Illinois and Kentucky into Indiana and Ohio to West Virginia. Other end-of-day precipitation curved along a frontal system through Virginia and Pennsylvania and along another front in the northeast United States. Northern Minnesota Monday closed the books on the driest May on record. Tuesday marked the beginning of the 1976 hurricane season that runs through November. However, forecasters couldn't single out any weather disturbance likely to cause trouble over the next few days. Cool morning temperatures greeted the Pacific Northwest on Tuesday morning. Yakima, Washington, chalked up a new record low of 30 degrees.

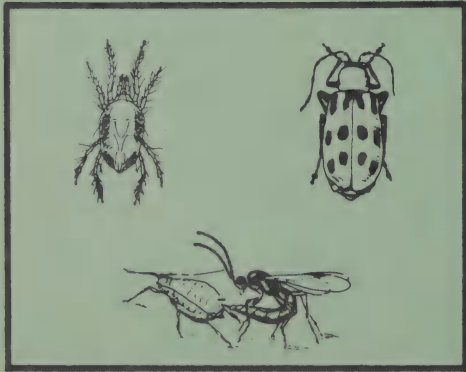
As late afternoon thunderstorm activity diminished in the Plains and eastern United States, isolated severe weather--including eight tornadoes--came to life from the eastern Gulf Coast States into the middle Atlantic States and over the northern Plains. Showers and thundershowers held their ground from southern New England to the middle Atlantic coast. Midweek weather conditions improved slowly over many sections of the Nation. The Pacific Northwest warming trend came on the heels of the unseasonable cold spell. Thunderstorms continued over the Southeast and the southern Ohio Valley spreading northward and westward in the early afternoon. Central Texas sprouted daytime storms that later also stretched from Wyoming into New Mexico. Sunny skies staged a comeback in the Southwest and temperatures pushed into the 100's from the desert areas through southwest Texas. Nationwide thunderstorms accounted for five tornadoes but no damage was reported.

Stationary systems spelled little change in Thursday's weather across the Nation. Midmorning, most thundershowers trickled to a stop in the Plains. A band of scattered showers and thundershowers steered a course from south-central Kansas into northeast South Dakota. Meanwhile, thunderstorm activity intensified in the southeast United States. By early afternoon, an extensive area of showers and thundershowers covered the lower portions of the Ohio and Mississippi Valleys, eastern gulf coast regions, southern Atlantic Coast States, and eastern portions of the middle Atlantic Coast area. Friday, thundershowers ended over the Carolina mountains but continued along the southern Atlantic and central gulf coast regions. In the Plains, thunderstorms took shape from North Dakota and eastern Montana into Texas and New Mexico. By this time, reports of tornadoes in the High Plains and along the gulf coast came as no surprise. Mostly clear skies favored the northeast quarter of the Nation, the eastern Plains States, and areas west of the Rockies. As during most of the week, thunderstorms highlighted the weekend weather picture. For the fifth day in a row, isolated heavy rains on Saturday stormed across the High Plains and the lower and middle Mississippi Valleys. Scattered thunderstorms appeared over most of the area between the Mississippi River and the Continental Divide. Chilly morning air cloaked the Northwest where frost reached into portions of Oregon and Washington. Cool air departed quickly, however, and noontime temperatures moved ahead 30 degrees in places to around 60 degrees. Record low reading made news along the southern Atlantic coast on Sunday: Athens, Georgia--51 degrees, Charlotte, North Carolina--48 degrees, and Columbia, South Carolina--49 degrees.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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Cooperative PLANT PEST REPORT



Animal
and Plant
Health
Inspection
Service

U.S.
DEPARTMENT
OF AGRICULTURE



This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

- ARMYWORM outbreaks in Jefferson County, Tennessee. (p. 309).
- GREENBUG over 50 per plant in Oklahoma, Kansas, and South Dakota. (p. 310).
- BLACK CUTWORM damage in Iowa and Ohio. (p. 311).
- SORGHUM MIDGE economic in area of Texas. (p. 312).
- LEAF RUST OF WHEAT continued to build up in Kansas. (p. 312).
- TAKE-ALL serious in parts of Kansas and Wisconsin. (p. 313).
- BARLEY YELLOW DWARF VIRUS infected 50 percent or more of plants checked in Kansas. (p. 313).
- ALFALFA WEEVIL larvae 10 or more per sweep in Nevada, Montana, South Dakota, Wisconsin, and New York. (pp. 314-315).
- BOLL WEEVIL punctured cotton squares in Texas. (p. 316).
- BALSAM GALL MIDGE outbreak expected in New Hampshire. (p. 321).
- HORN FLY 300 or more per head in Texas and Oklahoma. (p. 322).
- BLACK STEM RUST appeared across Kansas. (p. 324).
- GRASSHOPPERS serious in Utah and 60 or more per square yard in parts of New Mexico, Colorado, and North Dakota. (pp. 324-325).
- Several large MORMON CRICKET bands in Nevada. (p. 325).

Detection

New State records include an ARMORED SCALE in Delaware and BRONZE BIRCH BORER in Missouri. (p. 320).

For new county and island records, see page 327.

Special Reports

Witchweed Quarantines. Map. Centerfold.

Reports in this issue are for the week ending June 11 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

DISEASES

CURLY TOP VIRUS (CTV) - CALIFORNIA - Occasional CTV plant in sugar beets and none in 10 tomato fields from Gustine, Merced County, north to Colusa, Colusa County. None in sugar beets in Salinas Valley; tomatoes too small to be checked. None in 6 fields of beets between King City and Greenfield, Monterey County. One CTV plant in 8 beet fields and 2 tomato fields at Hames Valley and San Ardo, Monterey County; beans and peppers just germinating. None in beets at Shandon, San Luis Obispo County. (CA Coop. Rpt.).

NEW MEXICO - First CTV tomatoes of season near Las Cruces, Dona Ana County. Apparently will not be as severe as in 1975. (NM Coop. Rpt.). See **BET LEAFHOPPER** under this section.

INSECTS

ARMYWORM (*Pseudaletia unipuncta*) - TENNESSEE - Heavy outbreaks on wheat in Jefferson County. (Hammett).

WISCONSIN - High of 8 larvae per 100 sweeps in Lafayette County. Medium to large-sized larvae on oats. Up to 4 larvae per 100 sweeps in southern third of State. (WI Pest Sur.).

INDIANA - Larval infestations numerous since June 4. Heaviest from Tippecanoe to Howard Counties. Crops include pastures, wheat, and corn. Damage light to heavy. Infestations generally localized here and in other areas of State, especially from Jasper County. Individual larvae, one inch to mostly full grown, in most corn fields and grassy areas in northern half of State. (Matthew, Sillings).

OHIO - Larvae, 0.4-1.5 inches, heavy on no-till corn planted in rye. Larval averages per square foot by county: Wayne 3.4 and Coshocton 2.0. Damage on all plants June 8. No-till fields in Delaware County June 9 had 35 percent damage to corn planted in meadow and one percent damage to corn planted in soybean stubble. Feeding damage in no-till fields still reported statewide. (Szatmari-Goodman, Lewis).

MAINE - Blacklight trap collections still very light as opposed to heavy collections in May. (Gall).

ASTER LEAFHOPPER (*Macrosteles fascifrons*) - MINNESOTA - Averages per 100 sweeps by district: Southwest 36 on wheat, 14 on oats; south-central 70 on wheat, 80 on oats; central 26 on wheat, 35 on oats; northwest 5 on wheat and oats. (MN Pest Rpt.).

NORTH DAKOTA - Spring migrants per 100 sweeps by county: Sargent 4-24 and Ransom up to 23 on barley. (Scholl).

WISCONSIN - Counts stable on small grain in Central Sands and in southern third of State. Highest of 50 per 100 sweeps in Green Lake County. (WI Pest Sur.).

BET LEAFHOPPER (*Circulifer tenellus*) - CALIFORNIA - Light and widespread in all areas checked from Gustine, Merced County, north to Colusa, Colusa County. Heaviest on roadside weeds, 0-5 per 10 sweeps; beet leafhopper is between generations. High of 42 per 100 sweeps on roadside weeds at Shandon, San Luis Obispo County. (CA Coop. Rpt.). See **CURLY TOP VIRUS** under this section.

CORN EAWORM (*Heliothis zea*) - SOUTH CAROLINA - Damage moderate to heavy on 60 percent of 40-acre Lexington County corn field. (Douglas).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Up to 100 per young sorghum plant in Tillman County week of June 4. Ranged 0-80 per plant on 6 to 9-inch sorghum and 0-10 on 2 to 4-inch sorghum in Wagoner County. Light on sorghum in Tulsa and Mayes Counties and on corn in Nowata County. (OK Coop. Sur.). NEBRASKA - Trace on all corn checked in York, Merrick, and Hall Counties. (Raun). Up to 30 per plant in sorghum whorls in 12 fields in Webster, Franklin, Kearney, and Adams Counties. (Peters).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Ranged 5-50 per sorghum plant in Quay and Roosevelt Counties. (NM Coop. Rpt.). TEXAS - Moderate to heavy on small grain crops, mainly wheat, in El Paso County week ending June 4. (Neeb). Currently noneconomic on sorghum over gulf coast area. Honeydew and aphids in 50-acre field in Wilson County. Decreased in Nueces and San Patricio Counties. (Robinson, Rothrock). Some colonies in few fields in Blacklands. (Hoelscher). OKLAHOMA - Ranged 0-60 per sorghum plant 2-9 inches tall in Wagoner, Mayes, Tulsa, Nowata, Washington, Osage, and Kay Counties week of June 4. Damage heavy in many fields with bottom 1-2 leaves discolored. Many fields treated. Counts light on corn in Nowata County. YELLOW SUGARCANE APHID (Sipha flava) and CORN LEAF APHID (Rhopalosiphum maidis) present in most fields. (OK Coop. Sur.). KANSAS - Significant greenbug flights over most of State infested sorghum soon after emergence week of June 4. Some treating in Allen, Anderson, and Douglas Counties. Heavy on seedling sorghum with counts up to 65 per plant in Johnson, 40 in Douglas, 38 in Franklin, 35 in Elk, and 30 in Butler Counties. Parasitism by Lysiphlebus testaceipes (an aphidiid wasp) trace in Johnson, Franklin, and Douglas Counties. (Bell). MISSOURI - This species and S. flava infested 10-20 percent of small sorghum in central area. These species and R. maidis infested 40-60 percent of 6-inch sorghum. Mostly S. flava on small sorghum and R. maidis on taller sorghum. (Thomas).

NEBRASKA - Greenbug increased throughout southeast half of State. Infested seedling sorghum as far west as Lincoln County and as far north as Dixon County. (Witkowski, Campbell). Averaged 20 per plant in whorls and undersides of lower leaves in 12 sorghum fields in Webster, Franklin, Kearney, and Adams Counties. Some discolored leaves in some fields. Sorghum about 5 inches tall with 3-5 leaves. (Peters). Averaged 12.7 at Mead, Saunders County, in 10 fields planted to resistant varieties. Leaves with visible feeding damage but do not appear to be dying. Averaged 34 greenbugs per plant with moderate damage on a tolerant variety. (Mayo). SOUTH DAKOTA - Migrants well established on milo in Douglas, Charles Mix, Gregory, and Tripp Counties. Heaviest in Douglas County with 4-5 winged adults and up to 200 nymphs on each new seedling. Controls needed. (Kantack).

POTATO LEAFHOPPER (Empoasca fabae) - PENNSYLVANIA - Counts of 5 per 10 sweeps on old alfalfa planting in Washington County. Increased due to warmer weather. (Shetlar). OHIO - Adults averaged 4 per 100 sweeps of first and second-growth alfalfa in central and west-central areas. (Lewis). INDIANA - Counts per 100 sweeps up to 3 on alfalfa in north districts (Sutton, Meyer) and at 5 on potatoes in Jasper and Pulaski Counties (York).

TOBACCO BUDWORM (*Heliothis virescens*) - NORTH CAROLINA - Fields at threshold in 13 percent of 193 Bladen County tobacco fields. Most frequent infestation level 7.5 percent. Heaviest infestation level 20 percent. Less than one percent of fields at threshold in 112 Lenoir County fields. Very light for this time of year. Controls good in both counties. (Kirby et al.).

TOBACCO HORNWORM (*Manduca sexta*) - FLORIDA - Began increase on tobacco in Levy County, larvae started to appear June 9. (FL Coop. Sur.). NORTH CAROLINA - More severe on tobacco this year than in 1975 in Bladen County, 5 percent of 193 fields at threshold. (Kirby, Reagan).

CORN, SORGHUM, SUGARCANE

DISEASES

GOSS WILT (*Corynebacterium nebraskense*) - KANSAS - Infected some corn in northwest area. (Sim). NEBRASKA - Confirmed from 3 to 5-leaf corn in Howard and Hall Counties. Field incidence low. (Doupnik et al.).

HOLCUS SPOT (*Pseudomonas syringae*) - NEBRASKA - Symptoms on lower leaves of young corn seedlings. Rapid buildup predicted 5-8 days after thunderstorms this spring and early summer. (Wysong et al.).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - MISSOURI - Leaf feeding on 0-12.5 percent of corn 20-30 inches tall in east-central and southeast areas. Egg masses 3-14 per 100 plants in same fields. (Munson). NEBRASKA - Adult emergence well underway in eastern third of State; very heavy numbers in Hamilton County. Egg masses averaged per 100 corn plants by county: York 30 on 24-inch extended leaf, Merrick and Hall 10 each on 22-inch and 32-inch extended leaf, respectively. Adult emergence in Hall County reached 70 percent with 15 percent mated. (Raun). One egg mass on 40 percent of corn in plots in Dixon County. (Witkowski). Shotholes caused by larvae on scattered plants in field at Mead, Saunders County. (Mayo). IOWA - Emergence and adult flight underway. (IA Ins. Sur.). WISCONSIN - Development favored by weather. Adults heavy in blacklight traps and laying eggs on corn throughout southern and central districts. Egg masses did not exceed 2 per 50 plants. Percent development by county: Green 8 larvae, 36 pupae, and 56 emerged at Brodhead; Columbia 25 larvae, 50 pupae, and 25 emerged at Portage; Manitowoc 100 larvae at Manitowoc. (WI Pest Sur.).

BLACK CUTWORM (*Agrotis ipsilon*) - NEBRASKA - Larvae, third to fifth instar, averaged one per 7 plants in 60 acres of corn following soybeans and alfalfa in Antelope County; stand reduction 5 percent. (Koinzan, June 4). IOWA - Damaged corn in Hamilton, Cerro Gordo, Boone, Story, Clinton, Iowa, Keokuk, Decatur, and Van Buren Counties. Larvae 0.5-1.5 inches long. Some fields replanted; emergency sprays and baits applied. (IA Ins. Sur.). OHIO - Larval "hot spot" covered half of corn field in Wayne County June 8. Third-larval instar to pupae ranged 2-3 per linear foot of row. Half of plants cut or missing and additional one-fourth damaged. (Szatmari-Goodman).

STALK BORER (Papaipema nebris) - INDIANA - Larvae destroyed or badly damaged half of plants in 15-acre Lake County field leaving weedy stretch along National Interstate Highway 65. On Lagrange County corn. (Turpin, York). PENNSYLVANIA - Damaged no-till corn in central and south-central area. Replanting needed in some fields. (Gesell).

POTATO STEM BORER (Hydroecia micacea) - NEW YORK - Larvae, 0.25-0.75 inch, collected from tunnels in Agropyron repens (quackgrass), Dactylis glomerata (orchardgrass), and Rumex crispus (curly dock) in St. Lawrence County. Larvae expected in corn in 2 weeks or less. (Muka).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Economic in almost every blooming sorghum field scouted in lower Rio Grande Valley. Ranged 1-5 per head in most blooming sorghum. (Deer, Norman). Counts of 40 per 100 blooming sorghum heads in Falls County. (Hoelscher, Doggett).

SUGARBEET WIREWORM (Limonius californicus) - WASHINGTON - Larvae damaged 50-60 percent of 30-acre planting of seedling corn at Prosser, Benton County, week of June 4. (Pike).

YELLOW SUGARCANE APHID (Sipha flava) - OKLAHOMA - Ranged 0-85 per plant on 2 to 9-inch sorghum in Wagoner, Mayes, Tulsa, Nowata, Washington, Osage, and Kay Counties week of June 4. GREENBUG (Schizaphis graminum) and CORN LEAF APHID (Rhopalosiphum maidis) in most fields. Damage heavy in most fields with bottom 1-2 leaves discolored. Many fields treated but reinfested after 7-10 days in some areas. Infested Sorghum halepense (johnsongrass) in and around fields in most of these counties and in Garfield County. Light on lower leaves of corn in Wagoner, Muskogee, Mayes, and Nowata Counties. (OK Coop. Sur.).

SMALL GRAINS

DISEASES

LOOSE SMUT (Ustilago nuda) - KANSAS - Percent of infected wheat by county: Jefferson 1-2; Shawnee 1; Cloud 1; Pottawatomie, Nemaha, Atchison, Brown, Doniphan, Leavenworth, Republic, and Jewell each trace. (Sim). MICHIGAN - Infected 4 resistant varieties of soft red winter wheat. (Smith, June 4). DELAWARE - Very evident statewide. Heaviest where farmer saved seed to plant barley. (Carroll).

LEAF RUST OF WHEAT (Puccinia recondita var. tritici) - KANSAS - Percent of wheat infected by county week of June 4: Geary, Morris, Dickinson, Stafford, Pawnee each trace; Rice 60-70; Pratt 100; Barber 100; McPherson 30; Harper 40-50; Kingman 50-100; Sedgwick 100; Sumner 50-100; Cowley 50; Butler 80; and Anderson 5. Currently continued to build up statewide and will probably cause some loss on late wheat. Percent of plants infected by county: Marshall trace to 10, Pottawatomie 80, Nemaha 10, Atchison 5-80, Brown trace to 100, Doniphan 60, Leavenworth trace, Jefferson 100, Riley 60, Shawnee 70, Douglas 100, Clay 40-70, Cloud 90, Republic 100, Jewell trace to 80, Mitchell 50, and Ottawa 40. (Sim). NEBRASKA - Infected 5-10 percent of lower leaves in wheat at Clay Center, Clay County. (Watkins, Douppnik). MICHIGAN - Infected 4 resistant varieties of soft red winter wheat. (Smith, June 4).

POWDERY MILDEW OF WHEAT (Erysiphe graminis var. tritici) - KANSAS - Trace in several wheat fields in Dickinson County week of June 4. Infected up to 80 percent of plants in Butler County. Some infections heavy enough to infect awns and glumes. Current percent of lightly to moderately infected wheat by county: Riley 40, Marshall 2-3, Nemaha 30, Brown one, Doniphan 30, Cloud 10, and Atchison, Jefferson, Shawnee, and Mitchell each trace. (Sim). MICHIGAN - Infected resistant variety of soft red winter wheat in St. Joseph County. (Smith, June 4).

SPECKLED LEAF BLOTCH (Septoria tritici) - KANSAS - Continued problem on wheat week of June 4. Degree of infection on all plants by county: Morris, Pawnee, and Cowley heavy; Geary, Dickinson, Marion, Harvey, McPherson, Rice, Barton, Edwards, Pratt, Barber, Kingman, Sedgwick, Sumner, and Butler moderate; and Stafford light. Currently moderate on all wheat checked in Riley, Marshall, Pottawatomie, Atchison, Brown, Doniphan, Leavenworth, Jefferson, Shawnee, Clay, Cloud, Jewell, Republic, Mitchell, and Ottawa Counties. Moderate on 89 percent in Nemaha County. (Sim). NEBRASKA - Built up on lower leaves and moving upward in wheat plots at Clay Center, Clay County. (Watkins, Doupnik).

TAKE-ALL (Gaumannomyces graminis) - KANSAS - Continued problem on wheat especially in eastern two-thirds of State week of June 4. Infected 10-80 percent of plants in Marion County. Current percent of wheat infected by county: Riley 10-60, Nemaha 60, Pottawatomie trace to 10, Clay 5, Republic 10, and Cloud 10. (Sim). WISCONSIN - Loss about 80 percent in field of wheat following grass in Milwaukee County. (WI Pest Sur.).

BARLEY YELLOW DWARF VIRUS - KANSAS - Appeared more severe on early planted wheat week of June 4 in Finney, Labette, Crawford, Cherokee, Bourbon, Morris, Dickinson, and Barton Counties. Affected about 70 percent of oats in Franklin County field and about 15 percent in Douglas County field week of June 4. Currently evident in oats. Affected 50 percent of plants in Riley County and 100 percent in Pottawatomie County. Severe in Franklin County field where 20 percent of heads blasted with about 70 percent of plants infected. (Sim). MICHIGAN - Greenish-yellow phase on flag leaf, particularly in western area week ending June 4. (Smith).

TURF, PASTURES, RANGELAND

INSECTS

GRASS BUGS - UTAH - Labops sp. heavy, 10,000 acres of range near Wells, Sanpete County, in Uintah National Forest. (Crowe). Damage moderate to severe in Washington County (Huber) and reported at Paradise, Cache County. (Burtenshaw). Irbisia pacifica severely damaged about 200 acres of crested wheatgrass, intermediate wheatgrass, and giant ryegrass in Snowville; similar severe damage to such grasses in Whites Valley and Beaver Dam area, Box Elder County. Black grass bug damage in Rich County. (Burtenshaw).

A SCARAB (Ataenius spretulus) - COLORADO - Larvae infested large area of golf course at Denver, Denver County. (Hantsbarger).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Hatch in Lincoln County between 30 and 50 percent complete. (NM Coop. Rpt.).

FORAGE LEGUMES

DISEASES

STEM NEMATODE (Ditylenchus dipsaci) - KANSAS - Severe enough to cause emerging shoots to turn white in some irrigated alfalfa fields in Finney County. (Sim).

SPRING BLACK STEM (Phoma medicaginis) - KANSAS - Problem on first-cutting alfalfa, especially in north area week of June 4. Percent of infected plants by county: Light - Morris 60, Marion 30, Barton 100, Stafford 100, Edwards 100, and Sumner 100; moderate - Barber, Harper, and Kingman each 100. Currently light on second cutting and continued on uncut growth. Percent of plants with light to moderate infection by county: Riley 100, Marshall 100, Jackson 5, Brown 20, Doniphan 10, Clay trace, Republic 10, and Mitchell trace. (Sim).

SOOTY BLOTCH (Cymadothea trifolii) - KANSAS - Appeared in northeast area. Trace on red clover in Atchison County. Affected about half of plants surveyed in Jackson County. (Sim).

DOWNY MILDEW OF ALFALFA (Peronospora trifoliorum) - KANSAS - Light on about 80 percent of alfalfa in Stafford County field and about 50 percent in Pawnee County field week ending June 4. (Sim).

PHYTOPHTHORA ROOT ROT (Phytophthora megasperma) - KANSAS - Problem in seedling alfalfa stands statewide week of June 4. (Sim).

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEVADA - Larvae per sweep of hay alfalfa by county: Lyon 6-10 at Fernley; southern Washoe 5-66. (Knight, Wilcox). COLORADO - Averages of 4 larvae and one adult per sweep of alfalfa in Phillips County. (Hantsbarger). MONTANA - Adults, one per sweep, mating in alfalfa field near Geraldine, Chouteau County. Larvae 20 per sweep in field near Townsend, Broadwater County; feeding damage heavy. (Bain, Jensen).

TEXAS - Alfalfa weevil economically damaged alfalfa in Dallam and Hartley Counties week ending June 4. (Patrick). ARKANSAS - Continued active on alfalfa on farm near Fayetteville, Washington County. Declined as expected. Larvae and adults, one to one, fewer than 100 per 100 sweeps. (Boyer). NEBRASKA - Counts on alfalfa by county: Chase nearly full-grown larvae averaged 20 per 100 sweeps, cocoons averaged one per 5 square feet, adults averaged one per 100 sweeps, and tip feeding 7 percent in 3 second-growth fields. (Raun); northeast third of State pupation well underway but hot, dry weather resulted in heavy mortality (Witkowski); Saunders trace in 10 fields at Mead (Mayo); Dawson larvae averaged 316 per 100 sweeps in 3 first-growth fields and 62 per 100 sweeps in 12 second-growth fields. (Manglitz). SOUTH DAKOTA - Larvae, mostly third and fourth instars, up to 1,568 per 100 sweeps of alfalfa at Gayville, Yankton County. Most larvae in third and fourth instars. (Kantack).

MINNESOTA - Alfalfa weevil larvae 20-40 per 100 sweeps of uncut alfalfa in south-central, southwest, and central districts, and in Anoka County. (MN Pest Rpt.). WISCONSIN - Counts on uncut alfalfa remained stable in central and east-central areas and southern third of State but damage more apparent. Ranged 28-1,200 per 100 sweeps. Door County had high of 120 per sweep. Damage heavy in field near Black Earth in Dane County. (WI Pest Sur.). OHIO - Damage trace on second-growth alfalfa in central and west-central areas. Larvae 6-86 per 100 sweeps on 12-inch growth. Larvae 128-372 per 100 sweeps in uncut fields; damage light in some cases due to recent growth. New adults generally scarce, 1-3 per 100 sweeps, in west-central counties. (Lewis). NEW YORK - Larvae 5-10 per sweep of alfalfa in Cayuga and Tompkins Counties. Larvae approaching fourth instar. Activity appears light this season. (Willson).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - KANSAS - Light in alfalfa field near Silver Lake in Shawnee County. Collected by J.D. Lambley, May 28, 1976. Determined by J.D. Lambley and K.O. Bell. Light on alfalfa near Overbrook in Douglas County and near Pomona in Franklin County June 1. Collected and determined by B.D. Hilbert. All are new county records. (Bell). NEW MEXICO - Collected from alfalfa in Curry County by J. Durkin, first week of June. Determined by M. Stoetze. This is a new county record. (NM Coop. Rpt.). NEVADA - This species, mostly, and PEA APHID (A. pisum) 8-200 per sweep on Douglas County hay alfalfa with heaviest infestations spotted and localized. Averages per sweep of hay alfalfa by county: Lyon 23 at Fernley; Washoe 90 in south area and 150+ in experimental plots at Sparks; Pershing mostly latter species 100 on hay alfalfa and 25 on seed alfalfa at Lovelock. (Knight et al.).

PEA APHID (Acyrtosiphon pisum) - OKLAHOMA - Averaged 150 per 10 sweeps on Pawnee County alfalfa week of June 4. (OK Coop. Sur.). SOUTH DAKOTA - More than 35,000 per 100 sweeps of alfalfa at Gayville, Yankton County. (Kantack).

MEADOW SPITTLEBUG (Philaenus spumarius) - WISCONSIN - Up to 6 per 10 alfalfa stems in central and east-central areas and southern third of State. Spittle masses easily found. Several adults in Lafayette County. (WI Pest Sur.). MINNESOTA - Increased from 3 to 5 per 10 alfalfa stems in Dakota County. (MN Pest Rpt.).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - NEW YORK - Heavy on forage in Clinton County. (Thomas). Very heavy in Seneca County. (Willson).

SOYBEANS

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - INDIANA - Adult damage economic on soybeans in Clay County. Adult feeding trace in fields in favorable locations from Union County northeast to Clay County. (Edwards, Meyer).

SEEDCORN MAGGOT (Hylemya platura) - IOWA - Damaged soybeans in Jasper, Cerro Gordo, Fayette, and Marshall Counties. Many fields replanted. (IA Ins. Sur.).

COTTON

INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - TEXAS - Punctured squares found near overwintering sites on gulf coast week of June 4. Spot spraying continued; 10 percent of fields had entire field sprayed. (Robinson, Rothrock). Very heavy in early planted cotton. Fed on seedlings in 40-50 percent of areas surveyed in Bell and Hill Counties. (Hoelscher). Overwintered adults in most fields in Bell and Falls Counties. Pheromone trap catches increased. (Doggett). Increased in Leggett traps. Counts (in number of traps) by county: Baylor 17 (one), Cottle 19 (4), Fisher 229 (3), Jones 43 (3), and Knox 146 (2). (Boring). Currently, punctured 0-66 percent of green cotton squares in lower Rio Grande Valley. Damage in several fields decreased from 80 percent last period down to 15 percent or less. (Deer, Norman). Continued emergence from overwintering sites in gulf coast area; damage up to 40 percent. (Robinson, Rothrock). Overwintered adults continued very heavy in north-central area; trap catches of 128, 139, 507, and 800 at Horton, Delta County. Adults 2 per 30 foot of drill row in Collin County. Adults 2 per 50 foot of row at Reagor Springs, Ellis County. (Turney, Martin). Continued heavy in older fields in Blacklands. Very heavy near overwintering quarters at Holland, Bell County. (Hoelscher, Doggett). Heavy, 41 in 11 pheromone traps in Howard County. Trap catches indicate heavier activity than in 1975. One adult captured in pheromone traps at Cayanosa, Pecos County. (Neeb). Catches last period very heavy at 2 sites in Collin and Hunt Counties; light to moderate in all other traps as follows: Prosper 6, Blue Ridge 110, Josephine 20, Wolfe City 18, north of Greenville 140. (Ruth). Many overwintered adults migrated to early planted squaring cotton in Ellis and Navarro Counties. (Moore). OKLAHOMA - Adult pheromone trap catches week of June 4 by county (in number of traps): Tillman 475 (14); Kiowa 4,136 (24), Greer 3,338 (20), Harmon 1,203 (14), and Jackson 437 (6). (OK Coop. Sur.). ARKANSAS - Adults (in number of pheromone traps) by county: Clay 28 (10), Poinsett 3 (10), Lee 12 (8), and Lafayette 7 (10). (Boyer).

ALABAMA - Overwintered boll weevils increased on 5 to 10-leaf cotton in 3 fields in Macon County. Ranged 50-600 per acre in several fields. Squares old enough for egg laying very few and 2-3 weeks later than normal--will reflect latest first field generation in this area since 1914. (McQueen). GEORGIA - Feeding and egg-laying damage week ending June 5 on squares of cotton planted in March and early April in Dodge, Turner, and Crisp Counties. Weevils trapped by county: Crisp 18, Turner 134, Tift 2. (Lambert). TENNESSEE - Very little terminal bud feeding. Fewer adults trapped than for same period in 1975. (Locke). Totals of overwintered adults trapped: 263 from May 31 to June 1 and 574 June 7-8. (Gordon).

BOLLWORM (*Heliothis zea*) - TEXAS - Light in lower Rio Grande Valley. Eggs per 100 cotton terminals up to 16 in one field dropped to fewer than 5 later in week. Larvae generally less than 5 percent. (Deer, Norman). Subeconomic, but first to third-instar larvae continued to increase in San Patricio and Nueces Counties. (Robinson, Rothrock).

THRIPS - TEXAS - Continued problems on seedlings in Blacklands; 6 to 7-leaf cotton outgrew thrips. (Hoelscher). Continued damage in Kaufman, Ellis, Hunt, Navarro, Delta, Collin, Dallas, and Johnson Counties. (Turney). Counts light on 40-50 percent of fields in Trans-Pecos. (Neeb).

MISCELLANEOUS FIELD CROPS

INSECTS

SUNFLOWER BEETLE (Zygogramma exclamationis) - TEXAS - One adult in early planted sunflowers in Carson County. (Patrick). NORTH DAKOTA - Adults active in sunflower field in Richland County. (Scholl).

POTATOES, TOMATOES, PEPPERS

INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - SOUTH CAROLINA - Heavy in upper Piedmont area. Apparently building up on Solanum carolinense (horsenettle) and moving to potatoes and tomatoes. Controls applied. (Griffin). RHODE ISLAND - Initial first-generation hatch on Washington County commercial potatoes. (Partyka).

BEANS AND PEAS

DISEASES

STEM CANKER and DAMPING-OFF (Rhizoctonia solani) - TENNESSEE - Damaged home and commercial snapbeans in central and east areas. (Sauve et al.).

COLE CROPS

INSECTS

CABBAGE APHID (Brevicoryne brassicae) - WISCONSIN - Colonies on cabbage in southeast and south-central counties. Several severely wilted plants. (WI Pest Sur.).

CUCURBITS

INSECTS

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - ALABAMA - Adults of this species and STRIPED CUCUMBER BEETLE (Acalymma vittata) damaged all 75 acres of commercial cucumbers in Randolph County. Controls applied. (Smith, Wakefield).

GENERAL VEGETABLES

INSECTS

A BLISTER BEETLE (Epicauta andersoni) - NEW MEXICO - Heavily damaged vegetable gardens at Lovington, Lea County. Common and widespread over east area. (NM Coop. Rpt.).

SPINACH LEAFMINER (Pegomya hyoscyami) - NEW YORK - Damaged unsprayed spinach in central area. (Becker). MAINE - Destroyed one patch of new spinach and severely mined swiss chard in York County. Damaged spinach in other south areas. (Gall).

DECIDUOUS FRUITS AND NUTS

DISEASES

FIRE BLIGHT (Erwinia amylovora) - DELAWARE - More evident each week in commercial apple orchards statewide. (Carroll).

CEDAR-APPLE RUST (Gymnosporangium juniperi-virginianae) - TENNESSEE - Aecia formed on apple and crab apple trees statewide. (Sauve, Kelly).

APPLE SCAB (Venturia inaequalis) - WISCONSIN - Many curled, browned leaves due to severe early infection. Infected apples and flowering crab apples statewide. (WI Pest Sur.). CONNECTICUT - Infection periods statewide June 2 and in some areas June 6. Common on sprayed apple trees. Spore development checked at Storrs, Tolland County, indicated danger still of primary infection. (Schroeder).

INSECTS

CODLING MOTH (Laspeyresia pomonella) - MICHIGAN - First pheromone trap catches in Manistee County May 29. Peaked in Berrien and Van Buren Counties week of May 31 and a week later in Grand Rapids area. Hatch predicted June 4-10. (Brunner). NEW YORK - Sudden flush of adults in pheromone traps in Wayne and Tompkins Counties. Adults 10-20 in traps in commercial fruit orchards. (Tette, Willson). Flight peaked in Hudson Valley. (Smith). CONNECTICUT - Activity appeared to increase, 92 in pheromone traps at Storrs, Tolland County. (Schroeder).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - NEW JERSEY - First summer generation flight began. Trap catches up from 16 to 150 this period. Low in commercial orchards. (Ins.-Dis. Newsltr.).

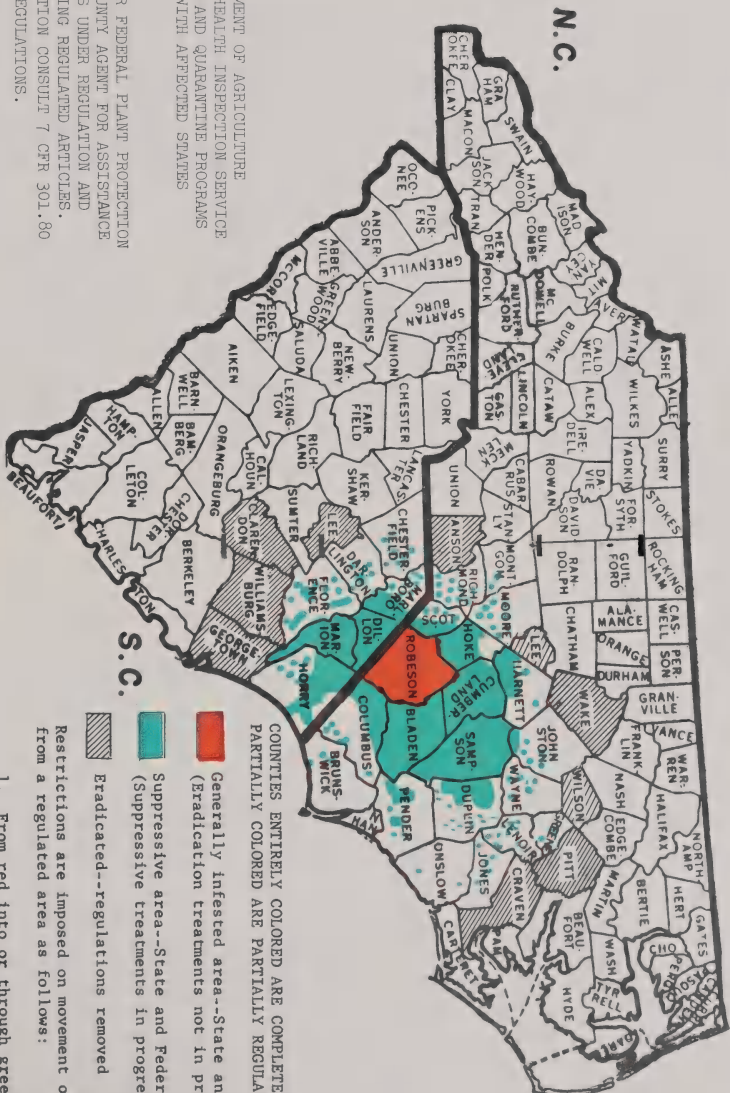
A GRACILLARIID MOTH (Lithocolletis blancardella) - MICHIGAN - Levels of mining at Belding, Ionia County, fruit orchards week ending June 4 indicate control needed when second generation adults emerge as expected week of June 7. (Brunner).

OBLIQUEBANDED LEAFROLLER (Choristoneura rosaceana) - NEW YORK - First pupae in Wayne County June 1. (Tette). First of season catch in Tompkins County June 11. (Willson).

PLUM CURCULIO (Conotrachelus nenuphar) - OHIO - Premature fruit drop, due to larvae in plum fruits, began in Wayne County June 10. (Levine).

A WEEVIL (Otiorhynchus cribricollis) - NEVADA - Adults averaged 4 per leaf and caused heavy foliar damage on home orchard almond, apple, and pear trees at Las Vegas, Clark County. (Boettcher).

WITCHWEED QUARANTINES



COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED. COUNTIES PARTIALLY COLORED ARE PARTIALLY REGULATED.

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
COOPERATING WITH AFFECTED STATES

CONSULT YOUR STATE OR FEDERAL PLANT PROTECTION INSPECTOR OR YOUR COUNTY AGENT FOR ASSISTANCE REGARDING EXACT AREAS UNDER REGULATION AND REQUIREMENTS FOR MOVING REGULATED ARTICLES. FOR DETAILED INFORMATION CONSULT 7 CFR 301.80 FOR QUARANTINE AND REGULATIONS.

REVISED MARCH 19, 1976 SEE REVERSE SIDE FOR LIST OF REGULATED ARTICLES

1. From red into or through green or white.
 2. From green into or through white.
 3. Green into green.
 4. Within green.*
- *If required by an authorized inspector.

THE FOLLOWING REGULATED ARTICLES REQUIRE A CERTIFICATE
OR PERMIT YEAR-ROUND EXCEPT AS INDICATED

1. Soil, compost, decomposed manure, humus, muck, and peat, separately or with other things; sand; and gravel.

Soil samples shipped to approved laboratories do not require attachment of certificate or permit.*

2. Plants with roots.
3. Grass sod.
4. Plant crowns and roots for propagation.
5. True bulbs, corms, rhizomes, and tubers of ornamental plants.
6. Root crops, except those from which all soil has been removed.

Root crops, such as turnips, carrots, and sweetpotatoes, are exempt if moving to a designated processing plant.*

7. Peanuts in shells and peanut shells, except boiled or roasted peanuts.
8. Small grains and soybeans.

Small grains are exempt** if harvested in bulk or into new or treated containers, and if the grains and containers for the grains have not come in contact with the soil, or if they have been cleaned at a designated facility.*

Soybeans, other than for seed purposes, are exempt** if harvested in bulk or into new or treated containers, and if the beans and containers for the beans did not come in contact with the soil, and if such beans are moving forthwith to a designated oil mill or facility* for crushing or cleaning; or if they are free of any stems or soybean hulls.

9. Hay, straw, fodder, and plant litter of any kind.
10. Seed cotton and gin trash.

Seed cotton is exempt if moving to a designated gin.*

11. Stumpwood.
12. Long green cucumbers, cantaloups, peppers, squash, tomatoes, and watermelons, except those from which all soil has been removed.
13. Pickling cucumbers, string beans, and field peas.

Pickling cucumbers, string beans, and field peas are exempt** if washed free of soil with running water.

14. Cabbage, except firm heads with loose outer leaves removed.
15. Leaf tobacco, except flue-cured leaf tobacco.
16. Ear corn, except shucked ear corn.

Unshucked ear corn is exempt** if harvested without coming in contact with the soil.

17. Used crates, boxes, burlap bags, cotton picking sacks, and other used farm products containers.
18. Used farm tools.

Used farm tools are exempt** if cleaned free of soil.

19. Used mechanized cultivating equipment and used harvesting equipment.

Used mechanized cultivating equipment is exempt** if cleaned and repainted.

20. Used mechanized soil-moving equipment.

Used mechanized soil-moving equipment is exempt** if cleaned and repainted.

21. Any other products, articles, or means of conveyance, of any character whatsoever, not covered by the above when it is determined by an inspector that they present a hazard of spread of witchweed and the person in possession thereof has been so notified.

*Information as to designated laboratories, facilities, gins, oil mills, and processing plants may be obtained from an inspector.

**Exempt if not exposed to infestation after cleaning or other prescribed handling.

WESTERN CHERRY FRUIT FLY (Rhagoletis indifferens) - OREGON - First adults of season for Wasco County May 28. (Thienes). Adults emerged in mid-Willamette Valley. First adults near Albany, Linn County, May 26; later taken in pheromone traps and emergence cages in several locations at Corvallis, Benton County, and Albany week ending June 4. (Alinazee). Currently, first 3 adults in pheromone trap at McMinnville, Yamhill County, June 7. (Roberts).

BLACK CHERRY FRUIT FLY (Rhagoletis fausta) - NEW YORK - First emergence of season in Wayne County June 5. (Lienk).

APPLE APHID (Aphis pomi) - MASSACHUSETTS - Counts doubled in Hampshire County deciduous fruit orchards. Averaged 25 per young terminal. Few predators present. (Adams).

BLACK CHERRY APHID (Myzus cerasi) - OHIO - Very heavy counts on cherry and apple deformed and discolored the leaves. (Balderston et al.).

EUROPEAN RED MITE (Panonychus ulmi) - MICHIGAN - Many fruit blocks with 4-5 mites per leaf, almost a critical level for this time of year. (Brunner, June 4).

PECAN NUT CASEBEARER (Acrobasis nuxvorella) - TEXAS - Eggs on pecans in McCulloch, Sterling, Mitchell, Llano, Menard, Coke, and Tom Green Counties. (Wilson). NEW MEXICO - Egg hatch of first summer generation at Carlsbad, Eddy County. (NM Coop. Rpt.).

PECAN PHYLLOXERA (Phylloxera devastatrix) - TEXAS - On pecans in several counties throughout San Angelo district, particularly heavy in McCulloch and Nolan Counties. (Wilson).

SMALL FRUITS

INSECTS

CRANBERRY WEEVIL (Anthonomus musculus) - MASSACHUSETTS - Damage extensive in many cranberry bogs in Plymouth and Barnstable Counties. Adults laid eggs in developing blossoms. (Tomlinson).

BLUEBERRY MAGGOT (Rhagoletis mendax) - NEW JERSEY - First trapped June 8 in abandoned blueberry fields. None in cultivated fields checked at Pemberton, Burlington County, and Hammonton, Atlantic County. Emergence unusually early; sprays to start June 21. (Ins.-Dis. Newsltr.).

SOUTHERN RED MITE (Oligonychus ilicis) - MASSACHUSETTS - Injured new cranberry blossoms and leaves at Wareham, Plymouth County. (Tomlinson).

ORNAMENTALS

INSECTS

FALL WEBWORM (Hyphantria cunea) - TEXAS - Continued to increase in gulf coast area week ending June 4. Webs on ash and pecan trees in Goliad, Calhoun, San Patricio, Nueces, Aransas, and Bee Counties. (Robinson, Rothrock).

BRONZE BIRCH BORER (Agrilus anxius) - MISSOURI - Adults taken from birch at Kansas City, Jackson County, May 27, 1976. Collected by L.P. Burgess. Determined by W.S. Craig. This is a new State record. (Munson).

BLACK VINE WEEVIL (Otiorhynchus sulcatus) - OHIO - Adults emerged statewide. Feeding underway in south area. Adults on Taxus, rhododendron, and azalea foliage. Moderate to heavy feeding damage on Taxus June 3 and 7 in Warren, Miami, and Montgomery Counties. (Madison et al.).

AZALEA BARK SCALE (Eriococcus azaleae) - SOUTH CAROLINA - Moderate on several azaleas in single yard in Horry County April 23, 1976. Collected by homeowner (unknown). Determined by D.K. Pollet. This is a new county record. (Pollet).

AN ARMORED SCALE (Pseudaonidia paeoniae) - DELAWARE - Heavy on camellia in New Castle County; many branches dead June 7, 1976. Crawlers active. Collected and determined by D.F. Bray. This is a new State record. (Burbutis, Kelsey).

SPRUCE SPIDER MITE (Oligonychus ununguis) - NEVADA - Heavy on junipers at Reno and Sparks, Washoe County. Webbing heavy, plant discoloration and damage severe. (NV Coop. Rpt.).

FOREST AND SHADE TREES

DISEASES

DUTCH ELM DISEASE (Ceratocystis ulmi) - MINNESOTA - Symptoms appeared on many elms throughout Minneapolis, Hennepin County, and St. Paul, Ramsey County, areas. Occurrence spotty in rest of metropolitan area. Very warm and dry weather past 2 weeks accelerated appearance of symptoms. (MN Pest Rpt.). See SMALLER EUROPEAN ELM BARK BEETLE under this section, and this disease and beetle under Federal and State Programs.

OAK LEAF SPOT (Actinopelte dryina) - TENNESSEE - Damage more severe than normal on Quercus sp. in Davidson County. (Gordon et al.).

INSECTS

JACK PINE BUDWORM (Choristoneura pinus) - WISCONSIN - Most larvae in fourth instar in Jackson County. Larvae up to 20 per 30 pine shoots and flowers. Mostly second instars, a few fourth instars, in Douglas County. (WI Pest Sur.).

SPRUCE BUDWORM (Choristoneura fumiferana) - NEW HAMPSHIRE - Moderate on 20 to 40-foot balsam fir Christmas tree seed stock, foliage webbed and defoliation moderate at Stewartstown, Coos County. (Dunn).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - ALABAMA - Larvae damaged many 3 to 10-foot pines along streets and at residences in Hartselle, Morgan County. (Wilson).

PINE NEEDLE SHEATHMINER (Zelleria haimbachi) - OREGON - Larvae numerous and active in pine candle tips in nurseries of east Multnomah County week ending June 4. (Larson).

WHITE PINE WEEVIL (Pissodes strobi) - MASSACHUSETTS - Pine terminal leaders wilted in Middlesex County. (Garland).

BALSAM GALL MIDGE (Dasineura balsamicola) - NEW HAMPSHIRE - Very severe at Bath and Swiftwater, Grafton County. Many females laying eggs in buds of standard 4 to 6-foot balsam fir Christmas trees. Another outbreak expected. Local outbreaks in these localities particularly severe past 4 years. (Dunn).

BALSAM TWIG APHID (Mindarus abietinus) - NEW HAMPSHIRE - Expanding distribution from endemic infestation areas. Damaged 4 to 6-foot standard Christmas trees at Bath, Grafton County, and Stewartstown and Colebrook, Coos County. Damage to date more severe than in 1975; up to 50 percent of examined twigs infested. (Dunn).

SPRING CANKERWORM (Paleacrita vernata) - NORTH DAKOTA - Defoliation by this species and FALL CANKERWORM (Alsophila pometaria) on all of some shelterbelts at Bottineau, Bottineau County, and ranged moderate to heavy in many shelterbelts in this county. (Tagestad). MAINE - P. vernata heavily infested many tree species at Bangor and other Penobscot County areas. (Gall).

TENT CATERPILLARS (Malacosoma spp.) - OREGON - Mainly WESTERN TENT CATERPILLAR (M. californicum), larvae very heavy throughout Columbia County and caused visible defoliation to alders and willows week ending June 4. Defoliation still generally concentrated in tops of alders, but was complete on wild rose, hawthorn, ninebark, apples, and cherries locally. (Penrose). Larvae moving from defoliated native hosts such as willow, hawthorn, and wild cherry into adjacent berry fields. (Collins). NORTH DAKOTA - FOREST TENT CATERPILLAR (M. disstria) damage to green ash shelterbelts in Pembina County light to moderate. Damage in town on green ash and apple. All larvae in late instar. (Tagestad).

LARGE ASPEN TORTRIX (Choristoneura conflictana) - NEW HAMPSHIRE - Larvae nearly full grown on aspen stands south of Colebrook, Coos County. Defoliation much less severe than in 1975 where many stands completely defoliated. (Dunn).

A TORTRICID MOTH (Archips negundanus) - UTAH - Severely defoliated boxelders in some areas of Davis, Salt Lake, Weber, and Cache Counties. Some trees completely defoliated, others lightly damaged. (Knowlton).

MOURNINGCLOAK BUTTERFLY (Nymphalis antiopa) - NEVADA - Up to 100 larvae per tree causing spotted, heavy damage to elm and poplar in Douglas County (Peterson) and willow in Elko County. (Peters).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - Flight activity curtailed past 2 weeks due to cool weather. Adults 3 on 2 traps at Portland, Multnomah County, May 27 to June 3; 3 on one trap at Eugene, Lane County, May 30 to June 7. (Penrose). See DUTCH ELM DISEASE under this section and this disease and beetle under Federal and State Programs.

ELM LEAF BEETLE (Pyrrhalta luteola) - NEVADA - Eggs still heavy. First to third-instar larval damage to elms moderate to heavy at Fallon, Churchill County. (Knight, Wilcox). TEXAS - Many reports of larvae on elms at Amarillo, Potter County, and Canyon, Randall County. (Patrick).

A SAWFLY (Caliroa quercuscoccineae) - WEST VIRGINIA - Adults heavy on red oaks, females laying eggs in leaves at Pipestem State Park. Heavy defoliation expected again in Summers County. (Hacker).

BIRCH LEAFMINER (Fenusa pusilla) - RHODE ISLAND - First generation damage peaked statewide. (King).

WOOLLY ALDER APHID (Paraprociophilus tessellatus) - OKLAHOMA - Heavy on sugar maple at Kingfisher, Kingfisher County, May 31, 1976. Collected by A. Eeds. Determined by D.C. Arnold. This is a new county record. (OK Coop. Sur.).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - CALIFORNIA - Heavy on ash trees at Sacramento, Sacramento County; some dieback. (CA Coop. Rpt.).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - MONTANA - Severe on poplar at Helena, Lewis and Clark County. (Jensen).

A PERIODICAL CICADA (Magicicada sp.) - TENNESSEE - Active in Bedford, Crockett, Decatur, Dyer, Fayette, Henry, Obion, Perry, Tipton, and Weakley Counties. Little or no damage at present. (Gordon).

MAN AND ANIMALS

INSECTS

CATTLE GRUBS (Hypoderma spp.) - NORTH DAKOTA - Adults running beef cattle in Slope and Burleigh Counties. Fly activity more common this year due to decreased use of systemics in 1975. (Brandvik). TEXAS - COMMON CATTLE GRUB (H. lineatum) adult activity moderate in Trans-Pecos area this spring. Adults heavy in Mason County this period. (Wilson).

HORN FLY (Haematobia irritans) - TEXAS - Counts on beef cattle by county week ending June 4: Terrell, Winkler, and Glasscock light; Crockett, Howard, and Ector moderate to heavy (Neeb); Nueces, Calhoun, Goliad, Bee, San Patricio, and Aransas averaged 300-400+ (Robinson, Rothrock); north area - still problem (Turney). Current counts by areas: Pecos, Reeves, Brewster, Jeff Davis, Howard, Glasscock, and Crockett Counties 500-1,500 per head, moderate to heavy; panhandle continued to increase (Patrick); continued to increase in San Angelo district 500-3,000 per head, heavy (Wilson). OKLAHOMA - Averages per head by county week of June 4: Payne 300 on cows, 1,500 on bulls; Pontotoc and Nowata moderate. (OK Coop. Sur.). ALABAMA - Increased numbers of this species and probably FACE FLY (Musca autumnalis) associated with heavy pinkeye condition in cattle in Cleburne and Etowah Counties. (Thompson et al.). INDIANA - Averages on few mixed-breed cattle checked by county: Tippecanoe 26 in partially wooded pasture and 20 on young steers and heifers near buildings; Warren 100 per animal. (Harris, Meyer). MASSACHUSETTS - Ranged 30-50 per head on beef cattle at Leverett, Franklin County. (Stoffolano).

FACE FLY (Musca autumnalis) - OKLAHOMA - Light to moderate on Nowata County cattle week of June 4. (OK Coop. Sur.). NORTH DAKOTA - Adults 4-6 per animal on 12-15 beef and dairy cattle in Richland County. (Scholl). INDIANA - Averages per face on mixed breed cattle by county: Tippecanoe 14 in partially wooded pasture and 5 on young steers and heifers near buildings; Warren 37. (Meyer, Harris).

MOSQUITOES - NEW HAMPSHIRE - Aedes spp. biting heavy statewide. Counts heavy, landing rates 50+ per minute, in Dartmouth and Presidential Mountains and adjacent foothills, Coos County. A. sollicitans biting at Dover, Strafford County. (Burger).

HORSE BOT FLY (Gasterophilus intestinalis) - NORTH DAKOTA - Eggs 50 per horse in Burleigh County. Adults of this species and NOSE BOT FLY (G. haemorrhoidalis) on horses. (Brandvik).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ICHNEUMONID WASP (Bathyplectes curculionis) - OKLAHOMA - Statewide parasitism of Hypera postica (alfalfa weevil) larvae collected before first alfalfa cutting averaged 79.9 percent week of June 4. Increased from 56.9 percent noted in 1975. (OK Coop. Sur.).

ICHNEUMONID WASPS - Diaparsis spp. recovered from Oulema melanopus (cereal leaf beetle) larvae collected from oats in following States: NEW YORK - From Springwater Township, Livingston County, June 11, 1976, by P.E. Gerber. Determined by V.E. Montgomery. WEST VIRGINIA - From Lincoln Magisterial District, Tyler County, June 1, 1976, by A.E. Tustin. Determined by V.E. Montgomery. New county records for both States. MICHIGAN - Lemophagus curtus on cereal leaf beetle larvae in oats from Betrand Township, Berrien County, June 8. (PPQ).

A EULOPHID WASP (Tetrastichus julis) - Larvae recovered from Oulema melanopus (cereal leaf beetle) larvae collected from oats in these States. INDIANA - From Needham Township, Johnson County, and Jefferson Township, Boone County. Collected by L. Leiser, June 1, 1976. Determined by V.E. Montgomery. OHIO - From Richfield Township, Lucas County. Collected by W.K. Brown, June 4, 1976. Determined by V.E. Montgomery. New County records for above 2 States. INDIANA - From Marion Township, Hendricks County, and Walnut Township, Montgomery County, June 3. From Union Township, Hendricks County, June 4. MICHIGAN - From Giliad Township, Branch County, and Three Oaks Township, Berrien County, June 7. OHIO - From field insectary in Jefferson Township, Guernsey County, May 24. NEW YORK - From Springwater Township, Livingston County, June 11. (PPQ).

A MYMARID WASP (Anaphes flavipes) - NEW JERSEY - Adults recovered from Oulema melanopus (cereal leaf beetle) eggs collected from oats near Alloway, Salem County, June 9, 1976. Collected and determined by R. Dysart. This is a new county record. (PPQ).

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Adults and larvae common on untreated sorghum in north-central, northeast, and east-central areas week ending June 4; but not controlling Schizaphis graminum (greenbug) and Sipha flava (yellow sugarcane aphid) infestations. (OK Coop. Sur.).

FEDERAL AND STATE PROGRAMS

DISEASES

BLACK STEM RUST (*Puccinia graminis*) - KANSAS - Appeared on wheat statewide. Trace in Pottawatomie, Brown, Jefferson, Republic, Clay, and Seward Counties. (Sim).

DUTCH ELM DISEASE (*Ceratocystis ulmi*) - CALIFORNIA - Eradication program progressing on schedule. Additional infections expected in 1976 since disease first found in late 1975 in Sonoma, Napa, and Santa Clara Counties. Tree removal extended into March 1976. Approved pesticide applied early this spring as trees leafed out. Early survey for disease symptoms began in May. First positive infection for 1976 cultured from suspect tree at El Verano, Sonoma County, in May. Pheromone traps began catching beetles. Beetles cultured from traps in known infected areas. Three beetles from El Verano and one beetle from Kenwood, Sonoma County, cultured positive. Monitoring of spray residue by chemical analysis of bark cores shows protective residues that should deter 50 percent of feeding. Current status of program by county: Santa Clara 2 positive and 5 exposed trees at Palo Alto in 1975 infected area; Sonoma one positive tree and 4 exposed trees each at El Verano and Sonoma; Napa one positive tree at Calistoga. All positive trees removed except at Palo Alto; removal at Palo Alto underway. On June 9, one positive tree cultured at Ross, Marin County. Much warm weather and drought should have revealed infections. Hot summer may reveal additional infections. (CA Coop. Rpt.). See SMALLER EUROPEAN ELM BARK BEETLE under this section and this disease and beetle under Forest and Shade Trees.

INSECTS

CEREAL LEAF BEETLE (*Oulema melanopus*) - INDIANA - Larvae silvered 3 acres of oats in Bartholomew County. Borderline economic damage common in 26 counties where parasitoids released. (Clark). WEST VIRGINIA - Larval averages per square foot of oats by county: Summers 3 on early boot, Mercer 5 on heading plants. (Hacker). PENNSYLVANIA - Eggs 1-29 and larvae 0-7 per 2 foot of row in 8 to 14-inch oats in Butler, Beaver, Lawrence, Crawford, and Mercer Counties. Eggs 1-8 and larvae up to 10 per 2 foot of row in oats beginning to head in Centre and Franklin Counties. Generally, damage light in most areas. (Shetlar et al.). NEW YORK - Fewer than one *Oulema melanopus* egg or larva per linear row foot on oats in Tompkins, Seneca, Cayuga, and Ontario Counties. Cool, wet, May appears to have reduced or delayed egg laying. (Willson). MASSACHUSETTS - First 3 adults of season on oats at Northampton, Hampshire County. (Greenough, Rose).

EUROPEAN PINE SHOOT MOTH (*Rhyacionia buoliana*) - OREGON - First adult in pheromone trap at Woodburn, Marion County, June 7. Chemical applications will be initiated soon to suppress population levels. (Larson).

GRASSHOPPERS - CALIFORNIA - First *Oedaleonotus enigma*, up to 15 per square yard, of season collected May 25 on Fresno County rangelands. (CA Coop. Rpt.). UTAH - Grasshoppers seriously infested 16,000 acres of rangeland south of Cedar City, Iron County. (Crowe). NEW MEXICO - Ranged 5-8, hot spots with up to 86, per square yard at Chama and Dulce, Rio Arriba County. Averaged 23 per square yard on 83,000+ acres in Folsom area, Union County,

week ending June 4. Currently, second and third-instar nymphs on 83,000 acres near Folsom; controls planned. (NM Coop. Rpt.).
COLORADO - Melanoplus differentialis (first to third instars) 90-200 per square yard on Archuleta County rangeland. (Alexander).

NORTH DAKOTA - Incipient economic grasshopper infestations in Billings and Slope County rangeland. Mostly M. sanguinipes, first through fourth instar, up to 60 per square yard on crested wheat-grass range. Camnula pellucida, second and third instar, up to 200 per square yard in hatching beds, on brome-grass pasture in Dunn County. M. differentialis, second through fourth instar, 8-10 per square yard of oats, 30 per square yard on margins, in Mercer County. (Brandvik). Many species, mostly first through third instar, 5-30 per square yard on McKenzie County rangeland. Hatch still underway. Many species, first through third instar, 1-30 per square yard on rangeland in Fort Berthold Indian Reservation. Farmers and ranchers in McKenzie County treating cropland. (Winks).
MINNESOTA - First and second instars of Melanoplus spp. in southwest, west-central, and central districts on roadside ditches. Nymphs averaged 1-2 per linear foot of row in first 10-20 rows of Lyon County wheat field. Roadsides cut for alfalfa and grasses forcing migration to neighboring fields. (MN Pest Rpt.).

GYPSY MOTH (Lymantria dispar) - PENNSYLVANIA - Larvae on oak and other trees in Berks and Schuylkill Counties, north of Chartlesville. Fourth-instar larvae on Blue Mountain along line between Berks and Schuylkill Counties. Third-instar larvae on Peters Mountain along line between Dauphin and Schuylkill Counties. Light in both areas. (Fasco). RHODE ISLAND - Generally into fourth instar statewide with some early fifth-instar larvae. (Stelle).

JAPANESE BEETLE (Popillia japonica) - ALABAMA - First 2 adults of season trapped at Birmingham, Jefferson County, June 2; 5 trapped at Opelika, Lee County, June 8. (Balch et al.). RHODE ISLAND - Heavy larval problems persist statewide. First adult emergence expected within 7 days. (Stelle).

MORMON CRICKET (Anabrus simplex) - NEVADA - Several large bands of moving adults on rangeland in areas of Sulfur Spring Range, Elko County. Bands by area: Smith Peak and Bailey Mountain-about 1.5 miles long and 200 yards wide, Cossin Mountain-about one mile long and 100 yards wide (baits applied in above 2 areas), upper Trout Creek 2+ miles long and of undetermined width, and upper Willow Creek and upper Maples Canyon-2 bands of unknown size. Delineating surveys and treatments for Anabrus simplex planned when weather improves. (Kail). UTAH - Infested 2,000 acres of range near Enterprise, Washington County. Light at Oak City, Millard County. (Crowe).

RED IMPORTED FIRE ANT (Solenopsis invicta) - SOUTH CAROLINA - Many on roadsides and yards June 2 near Point South, Jasper County; June 2 Yemassee, Hampton County; June 2 Gardens Corner, Beaufort County; by K. Breland and May 13 at Summerville, Dorchester County, by J. Schoenholz. Determined by R.F. Bollinger. NORTH CAROLINA - Many specimens found along roadsides near Havelock, Craven County, June 28, 1976, and near Olympia, Pamlico County, and Maysville, Jones County, June 1 by P. Lockerman. Determined by L. Roberts; confirmed by R.F. Bollinger. All are first identifications as S. invicta for these counties in both States. Previously reported in these counties as S. saevissima richteri. (PPQ).

SCREWWORM (*Cochliomyia hominivorax*) - Total of 320 cases reported from continental U.S. May 23-29 as follows: Texas 311, New Mexico 4, Arizona 5. Total of 311 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 206 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 141,916,200 as follows: Texas 125,739,600; New Mexico 1,278,000; Arizona 14,898,600. Total of 14,954,400 sterile flies released within Barrier of Mexico. (Vet. Serv.).

A WHITEFRINGED BEETLE (*Graphognathus* sp.) - NORTH CAROLINA - Larvae damaged 1.5-acre Edgecombe County tobacco field. Heavily damaged about 40 percent of plants in one-fifth of the field. (Warren, Reagan).

HAWAII PEST REPORT

Detection - One adult of a GRASSHOPPER (*Oedaleus abruptus*) collected from lawn at Poipu, Kauai, by D. Sugawa, May 30, 1976. Determined by S. Higa. This is a new island record. (Sugawa).

General Vegetables - (*Frankliniella occidentalis*) and ONION THRIPS (*Thrips tabaci*) infestations and damage generally moderate on Manoa lettuce (4 acres) at Hawaii Kai, Oahu. Counts, 10+ per head, in 0.25 acre of lettuce; damage heavy, 75 percent of heads abandoned. (Chun, L. Nakahara). LEAFMINER FLIES (*Liriomyza* spp.) infestations and damage moderate (30-60 percent of leaves infested) on acre of cucumber, 0.25 acre of pole beans, 0.5 acre of tomato, and 1,000 square feet of white stem cabbage at Waimanalo, Oahu. (Otsuka, L. Nakahara). CABBAGE WEBWORM (*Hellula rogatalis*) moderate (30-40 percent of terminals infested; 1-2 larvae per plant) on 0.25 acre of white stem cabbage and 0.5 acre of daikon at Hawaii Kai. Damage moderate on cabbage and light daikon. (Chun, L. Nakahara). BROAD MITE (*Polyphagotarsonemus latus*) and PEPPER WEEVIL (*Anthonomus eugenii*) infestations and damage (50 percent of terminals malformed) moderate on 1,000 square feet of chili pepper at Waimanalo. (L. Nakahara).

Beneficial Insects - Surveys for a BRACONID WASP (*Apanteles erionotae*) for May showed high parasitism (75-99 percent) of *Erionota thrax* (banana skipper) at various localities along east Maui and on Lanai. Skipper infestations near nil along west Maui and on Molokai. (Kahoohalahala et al.).

DETECTION

NEW STATE RECORDS

INSECTS

AN ARMORED SCALE (Pseudaonidia paeoniae) - DELAWARE - New Castle County. (p. 320).

BRONZE BIRCH BORER (Agrilus anxius) - MISSOURI - Jackson County. (p. 320).

NEW COUNTY AND ISLAND RECORDS

INSECTS

AZALEA BARK SCALE (Eriococcus azaleae) - SOUTH CAROLINA - Horry (p. 320).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - KANSAS - Shawnee, Douglas, Franklin; NEW MEXICO - Curry (p. 315).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Johnson, Boone; OHIO - Lucas (p. 323).

A GRASSHOPPER (Oedaleus abruptus) - HAWAII - Kauai Island (p. 326).

ICHNEUMONID WASPS (Diaparsis spp.) - NEW YORK - Livingston; WEST VIRGINIA - Tyler (p. 323).

A MYMARID WASP (Anaphes flavipes) - NEW JERSEY - Salem (p. 323).

WOOLLY ALDER APHID (Paraprociophilus tessellatus) - OKLAHOMA - Kingfisher (p. 322).

CORRECTIONS

CPPR 1(22):285 - A BRACONID WASP ... OKLAHOMA ... should read
A BRACONID WASP ... OHIO ... (PPQ).

WEATHER OF THE WEEK ENDING JUNE 13

Reprinted from Weekly Weather and Crop Bulletin Supplied by National Weather Service, NOAA.

HIGHLIGHTS: Seasonably warm weather favored most of the Nation during the week. Temperatures averaged nearly 15 degrees above normal in the Upper Mississippi Valley. On the cool side, chilly air from the Southeast and cold fronts from New England and the Pacific Northwest produced a number of low readings. Hardest hit were the Dakotas, Minnesota, and Illinois. Parched forest areas in the Upper Mississippi Valley benefited as storms moved eastward.

TEMPERATURES AND PRECIPITATION: Unseasonably cool temperatures kicked off a chilly week in the Southeast, as the morning mercury stalled in the 50's over portions of Alabama through the Carolinas. Record lows on Monday singled out Macon, Georgia, at 52 degrees and Columbia, South Carolina, at 50 degrees. Outside of high pressure areas that swept clouds from much of the eastern half of the Nation, scattered showers and thundershowers ranged across southern Florida, the lower Rocky Mountain Region, the Upper Mississippi Valley, and portions of the Pacific Northwest. The most intense storms thundered across sections of North Dakota and Minnesota stopping as nightfall approached. There were two sides to Tuesday's temperature story. In the Southeast, cool daytime air produced more record low readings. On the warm side, temperatures climbed into the 80's and 90's under sunny skies over much of the drought area extending from portions of Nebraska through South Dakota, Minnesota, and into Wisconsin. Warm readings in the 90's settled over New England and matched or shattered previous record highs in the Dakotas. Tuesday's high pressure system spread a second day of fair weather across much of the eastern and central United States. On the outskirts of the area, showers and thundershowers persisted over the Rockies and into the High Plains, as well as over parts of the Pacific Northwest, the Upper Great Lakes region, New England, and Florida.

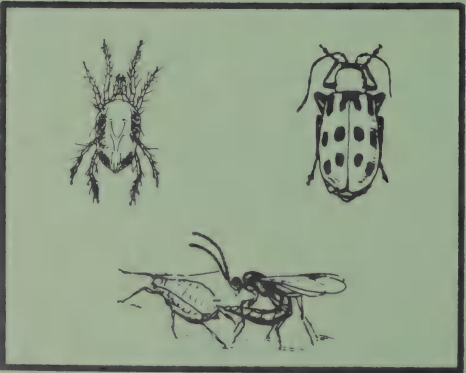
Midweek conditions turned dry and windy in the Nation's midsection. A narrow band of showers and storms extending from Oklahoma into north-central Kansas, brought little relief to the Plains. Thunderstorms that developed over the northern Plains moved eastward giving hope to dry forest areas of the Upper Mississippi Valley. Some of the slower moving storms first churned up severe weather in the northern Plains. Forecasters tracked heavy rains and tornadoes plus hail across parts of the Dakotas and Minnesota. Nighttime precipitation occurred as thunderstorms throughout the Southern Atlantic Coast States, Minnesota, Wisconsin, and into Colorado. Showers and isolated thundershowers turned up in Nevada, Idaho, and along sections of the Pacific coast. On Thursday, Minnesota welcomed rains of one half to one inch, which reduced the threat of forest fires in that area. Morning showers also spread across the middle Mississippi Valley into the Upper Midwest. Scattered severe weather across the Nation took shape as high winds and golf ball-size hail in portions of Utah, Georgia, Vermont, Montana, and Nebraska. There were no reports of damage or injuries.

Unseasonably warm readings in the upper 80's and lower 90's were the rule throughout the Northeast and thermometers in the northern and central United States registered in the 90's and 100's. Pierre, South Dakota, and Garden City, Kansas, both chalked up maximum of 105 degrees. Associated with shower and thunder-shower activity in the far West, nighttime air turned cool across the western third of the Nation. High temperatures and low humidities Friday concerned ranchers in the Central Plains as the livestock safety index hit the danger mark in South Dakota and portions of Iowa, Nebraska, and Kansas. Meantime, temperatures in the Northeast and New England were as much as 20 degrees lower than readings Thursday thanks to a line of thunderstorms that developed along the eastern end of the Great Lakes region. Daytime thunderstorms swept gusty winds across much of the northern Plains. Locally heavy rains soaked portions of Montana and five tornadoes accompanied Saturday morning downpours in the eastern Dakotas. At sunrise, thunderstorms spread into Iowa and Minnesota. During the day, intense thunderstorms spawned damaging hail and forceful winds in the upper Midwest. Near seasonable weekend weather favored the Nation, except in northern New England and the Pacific Northwest, where cold fronts fenced in cooler conditions. Record low readings in the Northeast listed Atlantic City, New Jersey, at 48 degrees and Concord, New Hampshire, at 35 degrees. Strong thunderstorms rounded out 2 consecutive days of severe weather in parts of Illinois, Wisconsin, and Minnesota. One Illinois twister killed 2 and injured 14 in a suburb of Chicago where 3 inches of precipitation in one hour made news as the heaviest rainfall on record.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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Cooperative PLANT PEST REPORT



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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ASTER YELLOWS VIRUS very heavy in ASTER LEAFHOPPER in Wisconsin. (p. 333).

ARMYWORM outbreaks in Ohio and 2 southeast counties of Michigan. (p. 333).

COMMON SMUT, NORTHERN and SOUTHERN LEAF BLIGHT on corn in north-eastern Florida. (p. 334).

LEAF RUST OF WHEAT appeared throughout southern Michigan. (p. 336).

FIRE BLIGHT in apples severe in New Jersey and more severe than in past seasons in New York. (p. 339).

PLUM CURCULIO problems in Ohio, New Hampshire, and Maine. (p. 340).

GRASSHOPPERS widespread in parts of New Mexico. (p. 345).

Detection

● A THRIPS in Florida is new to the continental United States. (p. 341).

First find of an ICHNEUMONID WASP that was released in Indiana. (p. 345).

BLACK THREAD SCALE on new host in Florida. (p. 341).

For new county records, see pages 346-347.

Reports in this issue are for the week ending June 18 unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

DISEASES

ASTER YELLOWS VIRUS - WISCONSIN - Very heavy, infected up to 5 percent of ASTER LEAFHOPPER (Macrostelus fascifrons). (WI Pest Sur.).

INSECTS

ARMYWORM (Pseudaletia unipuncta) - OKLAHOMA - Occasional larva in late-maturing wheat field in Woods County week of June 11. (OK Coop. Sur.). KENTUCKY - Third and fourth-instar larvae averaged 8 per 45 no-till corn plants in Scott County. Damage moderate to heavy. (Gregory). INDIANA - Frass on northeast district wheat especially in Adams and Allen Counties; larvae rare. Larval averages per linear foot by county: Kosciusko 2; Pulaski 3, heavy head cutting in one field with one larva per square yard on head or high on stalk. (Matthew et al.). OHIO - Outbreak statewide. Continued damage to no-till corn. Severe wheat damage widely scattered; damage included foliar feeding and head clipping, 90 percent of heads clipped in one case. Damaged oats, fescue, and pastures. Larvae full grown in Clark and Lucas Counties. (Blair, Rings). WISCONSIN - Larvae infested no-till corn in Crawford and Dane Counties. Up to 4 per square foot of quackgrass along Jefferson County waterway. (WI Pest Sur.). MICHIGAN - Larvae appeared in numbers in rye field in Van Buren County week ending June 11 (Untung) and on corn in Newaygo County (Rushmore). Outbreaks on wheat in St. Joseph and Cass Counties. (Hammon).

MASSACHUSETTS - Armyworm very heavy on field corn at Cummington, Hampshire County. (Richman). NEW HAMPSHIRE - Nearly full-grown larvae feeding on corn throughout southeast area. Damage severe in some fields near Derry, Rockingham County. (Bowman).

CORN EARWORM (Heliothis zea) - TEXAS - Severe on sweet corn throughout south-central area. Damaging in Harris, Austin, and Waller Counties. (Cole).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Counts by county: Hale light on sorghum; Jones, Knox, and Fisher light to moderate. (Latham, Boring). OKLAHOMA - Counts by county week of June 11: Washita and Caddo scattered and heavy on sorghum; northwest and north-central counties light to moderate, up to 100-200 per plant in some early planted fields; Garvin light to moderate. (OK Coop. Sur.). MISSOURI - Light on up to 12 percent of 12 to 18-inch sorghum in southwest area. (Munson). ALABAMA - Infested maturing corn in large Houston County field. Heavy in whorls of johnsongrass in Limestone County. (Roney et al.).

GREENBUG (Schizaphis graminum) - TEXAS - Counts on sorghum by area: Gulf coast remained subeconomic due to weather and beneficial insects; Hale 50 percent of sorghum infested, up to 2 per plant in 8 per 10 plants at Edmonson; north-central area increased but well below treatment levels; Rolling Plains generally light. (Turney et al.). OKLAHOMA - Counts per sorghum plant (and height in inches) by county week of June 11: Major 25-800 (3-6), 3-100 (2-4), Alfalfa 0-400 (1-3), 100-500 (8-12), Woods 0-24 (one), 0-380 (2-4), Harper 0-75 (2-4), Woodward 0-55 (2-9), Ellis 0-90 (2-6), Beaver 0-20, Texas 0-6, Cimarron 0-2, Dewey 0-45, Blaine 20-235, Kingfisher

0-100, Garfield 50, Tulsa 75, Caddo and Washita light to moderate, Noble moderate, Nowata moderate to heavy, and Craig heavy. (OK Coop. Sur.). KANSAS - Schizaphis graminum economic on sorghum in eastern half of State week ending June 11; much treating done. Heavy flights infested fields soon after germination in northeast and east-central districts. Damage heavy in many southeast area fields; some fields planted to sorghum again or to soybeans. Counts in sorghum whorls as many as or more than counts on lower leaves in east area. Lysiphlebus testaceipes (an aphidiid wasp) parasitism significant in southeast area but light in east area as far north as Pottawatomie, Jefferson, and Jackson Counties. (Bell).

POTATO LEAFHOPPER (Empoasca fabae) - MISSOURI - Light, 0-40 per 100 sweeps, on alfalfa in southwest area. (Munson). INDIANA - Adults 0.2 per sweep in most of 31 southwest and south-central alfalfa fields. Alfalfa 6-25 inches tall, 0-96 percent budded. Nymphs in one field. Counts similar in north districts except in La Porte County with average of 0.4 per sweep. (Wilson, Edwards). OHIO - Still light. Adults per 100 sweeps of forage legumes by county: Jackson 8-20 on second-growth; Medina 18 on 15-acre new seeding. (Lewis, Thoburn). WISCONSIN - Adults 20 per 100 sweeps of beans and potatoes in Central Sands. (WI Pest Sur.).

TOBACCO BUDWORM (Heliothis virescens) - NORTH CAROLINA - Two of 188 Bladen County tobacco fields at threshold, a 12-percent infestation decline from last period. Most frequent infestation level at 4 percent; heaviest at 10 percent. Controls good. (Kirby, Reagan).

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON SMUT (Ustilago maydis) - FLORIDA - Infected most corn in Jackson County week of June 11. (FL Coop. Sur.).

NORTHERN LEAF BLIGHT (Helminthosporium turcicum) - FLORIDA - Infected most corn in Jackson County week of June 11. (FL Coop. Sur.).

SOUTHERN LEAF BLIGHT (Helminthosporium maydis) - FLORIDA - Infected most corn in Jackson County week of June 11. (FL Coop. Sur.).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - MISSOURI - Damaged leaves on 4-39 percent of corn in southwest area. Second and third-instar larvae 0-8 per 100 plants. (Munson). IOWA - First larval feeding in field corn in O'Brien County. Adults peaked in light traps. Damage from first generation expected in west and south-east counties. Egg laying underway. Chemical controls expected in next 10 days. (IA Ins. Sur.). KENTUCKY - First-generation larvae damaged 20 percent of 16-acre corn planting at Harrodsburg, Mercer County. (Gregory). MARYLAND - First larvae of season on less than one percent of corn on Eastern Shore and in Harford County. (U. Md., Ent. Dept.). DELAWARE - Adults averaged less than 2 per night in blacklight trap collections in Sussex County. (Burbutis, Kelsey). NEW HAMPSHIRE - Adults, eggs, and first-instar larvae on corn 6+ inches tall throughout south area; above economic levels in some fields. (Bowman).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - TEXAS - Percent development in Hale County: South portion 30 adults, 35 larvae, and 35 pupae; Edmonson 80 pupae, few adults. (Latham).

BLACK CUTWORM (Agrotis ipsilon) - IOWA - Larvae, 1.5 inches long, damaged field corn in Benton, Lee, and Story Counties. Damage ranged from 10 percent reduction to fields where replanting necessary. Activity peaked in most areas. (IA Ins. Sur.).

MARYLAND - Cut 20-30 percent of stand in several corn fields in southern counties week ending June 11. (U. Md., Ent. Dept.).

MAINE - Larvae, all sizes, severely damaged 50 acres of corn in York County, 30 acres in Somerset County, and smaller fields in Penobscot County. (Gall).

COMMON STALK BORER (Papaipema nebris) - NORTH CAROLINA - Larvae heavily infested about 10 percent of 20-acre no-till corn field in Rockingham County, larvae feeding in whorl. Controls needed in areas of heavy weed residues. Damage restricted to corn near heavy weed growth in Lincoln and Wake Counties. (Shoulars, Stoudemire).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Heavy in every lower Rio Grande Valley field of blooming grain sorghum, 20+ per head in many fields. (Deer, Norman). Adults by county: Williamson and Milam 2-3 per 100 heads of early milo; Kleberg, Nueces, and San Patricio 2-3 per head in many fields; Grimes and Burleson light; Delta few on johnsongrass. (Rothrock et al.).

CORN ROOTWORMS (Diabrotica spp.) - IOWA - First larvae (first and second instars) of year in O'Brien County corn field. (IA Ins. Sur.).

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - Of 20,000 acres of field corn in Santa Rosa County, 7,000-8,000 acres sprayed last 4 weeks. Stink bugs stung corn where ear formed. (FL Coop. Sur.).

CORN ROOT APHID (Aphis maidiradicis) - NORTH CAROLINA - Severe in 80 percent of 15-acre no-till Johnston County corn field; 40 percent of plants dead or stunted. (Woodard). MARYLAND - Light, increased on corn statewide week ending June 11. Infested 40 percent of plants in southwest corner of 20-acre corn field in Frederick County. (U. Md., Ent. Dept.).

YELLOW SUGARCANE APHID (Sipha flava) - OKLAHOMA - Averaged 75 per sorghum plant in Tulsa County week of June 11. Light, averaged less than 5 per plant, in scattered fields in Garfield, Major, Alfalfa, Woods, Harper, Woodward, Ellis, Dewey, Blaine, and Kingfisher Counties. Up to 95 per 6 to 9-inch plant in Woods County field. (OK Coop. Sur.). ARKANSAS - Rare on sorghum in State. Infested one-third of 35-40 fields. Heaviest ranged 50-75 per row foot. (Boyer).

SMALL GRAINS

DISEASES

CROWN RUST (Puccinia coronata) - WISCONSIN - Apparent on oats in Dane and Jefferson Counties with 1-2 pustules per leaf. Fields adjacent to alternate host Rhamnus cathartica (European buckthorn). (WI Pest Sur.).

LEAF RUST OF WHEAT (Puccinia recondita var. tritici) - MICHIGAN - Few pustules on wheat throughout south and thumb areas for several weeks up to June 11. (Smith).

LOOSE SMUT (Ustilago nuda) - WISCONSIN - More prevalent on winter wheat than in past years. Infections of 3-5 percent common. (WI Pest Sur.).

BARLEY YELLOW DWARF VIRUS - KANSAS - Affected 90 percent of oat plants in Anderson County field. Blasted about 20 percent of heads. (Sim).

INSECTS

HESSIAN FLY (Mayetiola destructor) - OKLAHOMA - "Flaxseed" moderate on wheat at Skedee, Pawnee County, week of June 11. Very light at Stillwater, Payne County, and northeast area of Major County. (OK Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - NEVADA - Averages per sweep of wheat by county: Churchill 2 at Swingle Bench; Douglas 15; and Lyon 55 at Fernley. This species and GREENBUG (Schizaphis graminum), latter comprising up to 20 percent of populations, averaged 35 per sweep of barley and wheat at Lovelock, Pershing County. (Knight). MICHIGAN - Appeared in large numbers in some wheat in St. Joseph County. (Bowen). MARYLAND - Increased in north-central counties week ending June 11. Counts of 50 per linear foot in 10 acres of wheat in Frederick County; up to 100 per linear foot around field perimeter. (U. Md., Ent. Dept.).

TURF, PASTURES, RANGELAND

INSECTS

GRASSBUGS - UTAH - Heavy on native grass, not planted grass, over much of 16,000 acres of Cedar Mountain, southeast of Cedar City, Iron County. (Esplin). Some damage on planted grass range in Juab County. (Jones). Irbisia pacifica completely destroyed chlorophyll in planted grasses in White's Valley, Box Elder County, then moved into adjacent wheat fields and caused serious discoloration. (Haws).

HAIRY CHINCH BUG (Blissus leucopterus hirtus) - NEW HAMPSHIRE - Adults of first generation light on turf farms near Litchfield, Hillsborough County. Damage slight. Damaged lawns at Manchester, Hillsborough County, and Concord, Merrimack County. (Burger).

FORAGE LEGUMES

DISEASES

COMMON LEAF SPOT (Pseudopezia medicaginis) - KANSAS - Appeared in many fields in southeast area. Percent of infected alfalfa plants by county: Woodson 60, Wilson 50, Montgomery 10, and Linn 80. (Sim).

LEPTOSPHAERULINA LEAF SPOT (Leptosphaerulina briosiana) - KANSAS - Infected about 20 percent of alfalfa in Linn County field. (Sim). WISCONSIN - Light on some young leaves of uncut alfalfa in southern counties. (WI Pest Sur.).

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEVADA - Larvae averaged less than 2 per sweep in most hay alfalfa in Douglas County. Less than half of alfalfa in Douglas County treated. (Knight, Peterson). UTAH - Damaged much of uncut first-growth alfalfa, larvae mostly in fourth instar, no adults in Cache County. (Davis). Damage moderate to severe in Juab County. (Jones). Counts heavy on uncut Iron County alfalfa. (Esplin). MONTANA - Heavy on forage legumes in northeast area, wet weather made harvest difficult. (Jensen). KANSAS - Larvae, second instar to full grown, light on second-growth alfalfa in Morris, Lyon, Coffey, Woodson, Wilson, and Labette Counties week of June 11. (Bell). OKLAHOMA - Larvae light, 10 per 10 sweeps, on Harper County alfalfa week of June 11. (OK Coop. Sur.). WISCONSIN - Survey in late May and early June showed counts tended to build up on alfalfa in south area as parasites declined, to persistently increase in northwest area, and to be explosive in northeast area. Currently, larvae up to one per sweep of regrowth alfalfa in Iowa County. (WI Pest Sur.). MICHIGAN - Heavy on some alfalfa in Emmet County. (Lamkin). Cutting started; only late-cut fields will probably be sprayed. (Ruppel).

MEADOW SPITTLEBUG (Philaenus spumarius) - MARYLAND - Adults 5-10 per sweep of alfalfa in north-central counties week ending June 11. (U. Md., Ent. Dept.). WISCONSIN - Mostly adults on alfalfa in central, south-central, and northwest areas. Adults 100 per sweep in Iowa County field. Nymphs 9 per 10 stems in Jefferson County. (WI Pest Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Continued to damage alfalfa in some areas. Up to 500 per 25 sweeps, spotting leaves at Carlsbad, Eddy County. (NM Coop. Rpt.).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - CALIFORNIA - Adults swept from alfalfa in Cuyama Valley near Cuyama in Ventura County, by R. Hobbs, March 18, 1976. Determined by T. Kono. This is a new county record. (CA Coop. Rpt.). NEVADA - This species, mostly, and PEA APHID (A. pisum) 35-100 per sweep of hay alfalfa in most of Douglas County. Averages per sweep of hay alfalfa by county: Lyon 125 at Dayton; southern Washoe 15; Pershing mostly latter species 30-200+ on hay alfalfa and 14-32 on seed alfalfa at Lovelock. (Knight). A. kondoi increased in Pershing County, comprising up to 7 percent of samples compared with only 6 specimens in 1975. (Bechtel).

SOYBEANS

DISEASES

BROWN SPOT OF SOYBEAN (Septoria glycines) - KANSAS - Found for first time in Franklin County soybean field where about 30 percent of plants infected in fields surveyed. (Sim).

INSECTS

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - ALABAMA - Adults one per 3 feet of row on 4 to 6-inch soybeans in 100+ acres in Calhoun County field. (McQueen). INDIANA - Adults economic on Clay County soybeans. Larvae in Lawrence County. (Edwards). OHIO - Adults on soybeans by county: Ross one per 2 plants, up to 15 percent of leaf area consumed; Fairfield 4 per row foot in 20-acre field. (Mantzing, Taylor). MARYLAND - Adults averaged one per 5 row feet of soybeans on northeastern shore; increasing southward. (U. Md., Ent. Dept.).

YELLOWSTRIPED ARMYWORM (*Spodoptera ornithogalli*) - OKLAHOMA - Occasional small larva on young Sequoyah County soybeans week of June 11. (OK Coop. Sur.).

PEANUTS

INSECTS

LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) - FLORIDA - Heavy counts on 100-acre farm of peanuts south of Chiefland, Levy County, required treatment. More serious on younger peanuts. First appeared on peanuts at Malone, Jackson County, June 7-11. (FL Coop. Sur.).

COTTON

INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - TEXAS - Percent damage by county: Lower Rio Grande Valley increased on untreated cotton, 1-76 percent with 30+ percent in some fields, Kleberg 40-50 percent on 250 acres, and San Patricio 25-35 percent on 260 acres. (Deer et al.). Overwintered adults by county: Williamson and Milam decreased; south-central area appearing; Delta heavy at Horton Bottom; Ellis, Navarro, Collin, and Hunt trapping continued; Jones and Fisher found in 3 fields, 205 on 6 traps; Cottle 32 on 3 traps; Foard 132 on one trap; and Wichita 43 on 4 traps. (Boring et al.). TENNESSEE - Overwintered adults trapped June 14-15 by county: Hardin 2, McNairy 46, Hardeman 120, Fayette 135, Shelby 53, Tipton 3, Haywood 61, Madison 163, Gibson 87, Crockett 31, Dyer 41, Lauderdale 94, and Lincoln 2. (Gordon).

BOLLWORM (*Heliothis zea*) - TEXAS - Activity increased on cotton in lower Rio Grande Valley and gulf coast areas. (Jackman).

TARNISHED PLANT BUG (*Lygus lineolaris*) - ALABAMA - All stages heavy, 5-25 per sweep, on host plants along cotton field borders, old terraces, and ditches in all of north area. Occasional adult and nymphs on cotton. (McQueen).

COTTON FLEAHOPPER (*Pseudatomoscelis seriatus*) - TEXAS - Counts by area: South-central heavy on wild hosts, Williamson and Milam Counties increased in some areas in cotton fields starting to square, north-central increased but below treatment level. (Cole et al.).

POTATOES, TOMATOES, PEPPERS

DISEASES

EARLY BLIGHT (Alternaria solani) - DELAWARE - Symptoms very few in commercial potatoes and tomatoes, but evident in many gardens. (Carroll).

INSECTS

TUBER FLEA BEETLE (Epitrix tuberis) - OREGON - Heaviest counts averaged 2 adults per 25 sweeps in field borders of 800 acres of potatoes in Multnomah, Washington, and Clackamas Counties. Some feeding damage to 1976 commercial crop; damage heavy on volunteer plants. (Collins).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - OHIO - Full-grown larvae 2-10 per plant on 5 percent of one-acre potato patch in Lawrence County. Hatch underway in Wayne County; first-instar larvae present. (Lewis, Sevier). MICHIGAN - Actively laying eggs on vegetables statewide. (Cress).

CUCURBITS

INSECTS

STRIPED CUCUMBER BEETLE (Acalymma vittata) - NEW HAMPSHIRE - Heavy on untreated cucurbits throughout south area; extensive damage in some areas. (Bowman).

MELON APHID (Aphis gossypii) - MARYLAND - Heavy on various cucurbits in Wicomico and Dorchester Counties. Stand reduction 10-15 percent. (U. Md., Ent. Dept.).

GENERAL VEGETABLES

INSECTS

SPINACH LEAFMINER (Pegomya hyoscyami) - NEW HAMPSHIRE - Damage severe to beets in gardens throughout southeast area. Some stands entirely destroyed. (Bowman).

DECIDUOUS FRUITS AND NUTS

DISEASES

FIRE BLIGHT (Erwinia amylovora) - NEW JERSEY - Severe on apples statewide. (Ins.-Dis. Newsltr.). NEW YORK - Symptoms became more apparent in apples in west area week of June 7. Shoot infection week ending June 14 appeared more widespread than in recent seasons. (NY Wkly. Rpt.). WISCONSIN - Light on Prunus sp. in Jefferson County and Malus in Dane and Chippewa Counties. Black, twisted foliage at branch tips and bark cankers obvious. (Wis. Ext. Sur.).

A BACTERIAL CANKER (Pseudomonas sp.) - MICHIGAN - Leaf spotting and fruit rotting of tart cherries flared up in southwest area and in orchard near Hart, Oceana County, June 9. Leaf symptoms peaked in southwest area week of May 31. (Jones).

APPLE RUST (Gymnosporangium nidus-avis) - NEW JERSEY - Infection on apples by counties: North area heavy, central moderate, and south very light. (Ins.-Dis. Newsltr.).

APPLE SCAB (Venturia inaequalis) - CONNECTICUT - Areas with rain this period should release remaining primary spores from overwintered apple leaves. (Kollas).

INSECTS

PLUM CURCULIO (Conotrachelus nenuphar) - OHIO - Damage unusually heavy on unsprayed apples in Wayne County. Feeding damage 1.85 percent, egg-laying damage 64.8 percent on 54 randomly selected apples. Up to 9 egg-laying scars on some fruits. (Lewis). NEW HAMPSHIRE - Moderate to severe on apples in south area. Feeding punctures averaged 1-5 per fruit on most trees in Strafford County. Fruit drop common on untreated trees. (Wadleigh). MAINE - Heavy fruit cutting in some apple orchards. (Gall).

ROUNDHEADED APPLE TREE BORER (Saperda candida) - MAINE - Eggs laid, populations seem heavier than usual in some areas. Apple, crab apple, and mountain ash seem most heavily infested. (Gall).

GREEN FRUITWORM (Lithophane antennata) - UTAH - Serious injury to pear and apple fruits in orchards at Providence, Cache County, and North Ogden, Weber County; injury common elsewhere. (Davis).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - OREGON - Crawlers emerged on Rogue River Valley pears. (Berry). WASHINGTON - Crawlers on apple at Zillah, Yakima County, June 10. (WA Tree Fruit Pest Mgt. Assoc.).

APPLE APHID (Aphis pomi) - CONNECTICUT - Building up on apple terminals in many orchards. (Kollas). MASSACHUSETTS - Counts exploded on deciduous fruit in west area. Averaged 200 per young terminal. Leaf curling noted. (Adams, Prokopy). NEW HAMPSHIRE - Ranged 150-200 per leaf on check fruit trees at Durham, Strafford County. (Wadleigh).

PEAR PSYLLA (Psylla pyricola) - MICHIGAN - Adults of first summer-generation laying eggs in southwest area. Third instar to adults at Hart and Shelby, Oceana County. (Brunner).

WHITE APPLE LEAFHOPPER (Typhlocyba pomaria) - MICHIGAN - Adults and older nymphs heavy in west area week ending June 11. Some eggs already laid. (Brunner). MASSACHUSETTS - Heavy in 2 commercial Hampshire County apple orchards. (Prokopy).

BOXELDER BUG (Leptocoris trivittatus) - UTAH - Heavy in apple orchard at Providence, Cache County; fed on green fruits and caused severe catfacing. (Davis).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Third instar activity intense on pecans at Walnut Creek south of Bastrop, Bastrop County, and along San Gabriel River east of Georgetown, Williamson County. Defoliation imminent. (Harris).

ORNAMENTALS

DISEASES

IRIS LEAF SPOT (Didymella macrospora) - KANSAS - Affected 80 percent of plants in commercial plot in Osage County. (Sim).

BACTERIAL LEAF SPOT OF IRIS (Xanthomonas tardicrescens) - KANSAS - Infected 60 percent of iris in commercial plot in Osage County. (Sim).

ROSE MOSAIC VIRUS - TENNESSEE - Observed in roses in Davidson, Wilson, and Sumner Counties. (Sauve, Kelly).

INSECTS

A THRIPS (Dichromothrips corbetti (Priesner)) - FLORIDA - Female collected from vanda orchid on commercial orchid property at Ft. Myers, Lee County, by W.T. Walsh, May 17, 1976. Flower bud damage on 15 plants. Determined by S. Nakahara. This is a new continental United States record. Orchids in community pot shipped from out-of-State 1.5 years ago. Controls effective. (FL Coop. Sur.). Known from Hawaii, Malaysia, Philippines, and Singapore. (PPQ).

SOFT SCALES - ALABAMA - Toumeyella cerifera taken on Cephalanthus occidentalis (common buttonbush) in Chattahoochee State Park, Houston County, May 9, 1976, by B.J. Muse. Ceroplastes ceriferus taken on Cornuta (burford holly) at Anniston, Calhoun County, May 26, 1976, by T. Pigott. All determined by M.L. Williams. Both are new county records. (McQueen). CALIFORNIA - Pulvinaria mesembryanthemi adults collected from landscape ground cover of ice plants at Vallejo, Solano County. Becoming wider spread along highways. New location for Napa, Napa County, collected at end of May. (CA Coop. Rpt.).

FLETCHER SCALE (Lecanium fletcheri) - OHIO - First crawlers of season on yew. Trace to light in Lake County. (Hunt, Endebrock). NEW HAMPSHIRE - Crawlers hatched and active on ornamental yew in southeast area. Hatched 2-3 weeks early this year. (Mason).

GRAPE MEALYBUG (Pseudococcus maritimus) - ALABAMA - Taken on Sassafras albidum (white sassafras) at Huntsville, Madison County, May 9, 1976. Collected by C.H. Ray. Determined by M.L. Williams. This is a new county record. (McQueen).

EUONYMOUS SCALE (Unaspis euonymi) - TEXAS - Heavy on euonymus in Baylor, Hardeman, Wilbarger, and Wichita Counties. (Boring). ALABAMA - Heavily infested euonymus at Ashland, Clay County. (Peasant et al.).

BLACK THREAD SCALE (Ischnaspis longirostris) - FLORIDA - Adults lightly infested few Ligustrum japonicum (Japanese privet) plants in nursery at Hialeah, Dade County, May 25. This is a new host record for State. (FL Coop. Sur.).

FOREST AND SHADE TREES

DISEASES

DUTCH ELM DISEASE (*Ceratocystis ulmi*) - WISCONSIN - Trees infected in 1975 wilted in Langlade County. No foliar discoloration. Prominent symptoms evident in Dane and Jackson County areas. (WI Pest Sur.). MICHIGAN - First symptoms of root graft transmission on elm at East Lansing, Ingham County, week of June 11. (Laemmle).

ANTHRACNOSE OF OAK (*Gnomonia quercina*) - MICHIGAN - Imperfect stage severely damaged many white and English oaks. Leaves with irregular brown areas and often distorted and deformed. (Laemmle).

INSECTS

SOUTHERN PINE BEETLE (*Dendroctonus frontalis*) - MISSISSIPPI - Infested loblolly pine 2.5 miles south of Starkville, Oktibbeha County, in yard June 7, 1976. Collected and determined by G.C. Purser. Confirmed by T.E. Nebeker. This is a new county record. (Anderson).

WESTERN SPRUCE BUDWORM (*Choristoneura occidentalis*) - NEW MEXICO - Counts increasing and damage continued on Douglas-fir and white fir at Espanola, Santa Fe National Forest (Sandoval and Rio Arriba Counties). (NM Coop. Rpt.).

BALSAM TWIG APHID (*Mindarus abietinus*) - OREGON - Heavy on blue and white spruce in 0.5-acre commercial planting near Tualatin, Washington County. Feeding on new needles. All plants infested. (Sjoblom).

PINE SPITTLEBUG (*Aphrophora parallela*) - NEW HAMPSHIRE - Very heavy on white pine and balsam fir in south area. Averaged 5-10 per shoot at Deerfield, Rockingham County. Moderate at Dover, Strafford County. (Burger).

BIRCH LEAFMINER (*Fenusa pusilla*) - WISCONSIN - Mined 95 percent of leaves on many birch trees in Sheboygan, Prince, Lincoln, and Oneida Counties and in area along Marathon and Shawano County line. (WI Pest Sur.).

ELM LEAF BEETLE (*Pyrrhalta luteola*) - OREGON - Hatch underway in central Willamette Valley. First-instar larvae on one of 15-20 leaves with egg masses June 14 on American elms at west Salem, Polk County. (Penrose). MAINE - Larvae actively feeding on elm from central area south. Locally heavy, some browning expected. (Gall).

WHITE PEACH SCALE (*Pseudaulacaspis pentagona*) - ALABAMA - Taken on chinaberry at Ozark, Dale County, June 1, 1976. Collected by G. Hubbard. Determined by M.L. Williams. This is a new county record. (McQueen).

A SOFT SCALE (*Pulvinaria acericola*) - ALABAMA - Taken on maple tree in Coffee County by T. Casaday and G. Strother May 24, 1976. Determined by M.L. Williams. This is a new county record. (McQueen).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - TEXAS - Counts by area: North-central increased; south-central increased; Archer, Hall, Shackelford, and Wilbarger Counties moderate to heavy. (Turney et al.). OKLAHOMA - Counts on cattle by county week of July 11: Garvin and Pontotoc heavy; Comanche moderate. (OK Coop. Sur.). MISSISSIPPI - Adults 100-800 per head of cattle in Oktibbeha, Attala, Yazoo, Hinds, Copiah, Simpson, Rankin, Smith, and Scott Counties week ending June 11. (Anderson). INDIANA - Adults 0-150 (averaged 50) per side on 8 cattle of mixed breeds, sex, and age in Tippecanoe County pasture. Heaviest count on 2 males. (Meyer). FLORIDA - Decreased on 2 untreated small beef herds at Gainesville, Alachua County. (FL Coop. Sur.). NEW HAMPSHIRE - Averaged 25-50 per animal on beef cattle at Durham, Strafford County. (Burger).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Adults per face on cattle by county week ending June 11: Oktibbeha 30+, Choctaw 20+, Yazoo 15+, and Attala 10+. (Anderson). INDIANA - Adults 5-30 (averaged 14) per face on 8 cattle of mixed breeds, sex, and age in Tippecanoe County pasture. Averaged 4 per face on 5 young steers and heifers near buildings. (Meyer). MARYLAND - Ranged 30-50 per head on Herefords and Holsteins in Frederick County. (U. Md., Ent. Dept.). NEW HAMPSHIRE - Averaged 10-15 per face on beef cattle at Durham, Strafford County. (Burger).

HOUSE FLY (Musca domestica) - NEW MEXICO - Unusually heavy in Dona Ana and Bernalillo Counties where temperatures reaching 100 degrees F. for first time this season. (NM Coop. Rpt.).

STABLE FLY (Stomoxys calcitrans) - MARYLAND - Counts of 30 per head irritated Hereford and Holstein cattle in Frederick County. (U. Md., Ent. Dept.).

A HORSE FLY (Hybomitra nuda) - NEW HAMPSHIRE - Averaged 3 per animal biting beef cattle and 5 per animal biting horses at Durham, Strafford County. (Burger).

MOSQUITOES - FLORIDA - Psorophora ferox distinct nuisance and dominant species biting people on swamp forest nature trail and at campsites in State park near Mariana, Jackson County. P. horrida and Aedes atlanticus and/or A. tormentor common and biting people there. (FL Coop. Sur.). NEW HAMPSHIRE - Aedes spp. active and biting statewide. A. stimulans very heavy at Lee, Strafford County, averaged 10-15 females landing and/or biting per minute in heavily shaded woodland. A. excrucians and A. stimulans common at Epping, Rockingham County, 2-3 females landing and/or biting per minute. Anopheles punctipennis and Coquillettidia perturbans becoming heavy in light traps at Epping. (Burger).

SHEEP KED (Melophagus ovinus) - UTAH - General problem on Juab County sheep. (Jones, Knowlton).

GULF COAST TICK (Amblyomma maculatum) - OKLAHOMA - Moderate to heavy in ears of Mayes County cattle week of June 11. (OK Coop. Sur.).

HOUSEHOLDS AND STRUCTURES

INSECTS

CARPENTER BEE (Xylocopa virginica) - TENNESSEE - Continued problems in and around homes in central area. Brood now in tunnels or chambers and females very aggressive. Several persons stung. (Gordon).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A EULOPHID WASP (Aphytis sp.) - FLORIDA - Reared and released in 7 locations at Gainesville, Alachua County, during May; established on Fiorinia theae (tea scale) at one of these locations. Parasitized males only in lab, but observed on both sexes in field. Attacked F. theae when nymphs in second instar. First introduction and release of species in United States. (FL Coop. Sur.).

A EULOPHID WASP (Tetrastichus julis) - Larvae recovered from Oulema melanopus (cereal leaf beetle) larvae collected from oats (unless otherwise given) in these States. INDIANA - From Franklin Township, Washington County, June 9, 1976; collected and determined by L. Leiser. Eggs collected from Washington Township, Jackson County, Pleasant Run Township, Lawrence County, and Northeast Township, Orange County by B. Sproate, June 9; determined by L. Leiser. Larvae from Liberty Township, White County, by G. Teresinski, June 14. OHIO - From wheat in Jefferson Township, Franklin County, by F. Prentice, May 19, 1976. From Franklin Township, Shelby County, and Johnson Township, Champaign County, by F. Prentice, June 3. From Florence Township, Erie County, and Sandusky Township, Sandusky County, by W. Wille, June 4. From wheat and wild grasses in Smith Township, Mahoning County, by W. Purgert, June 9. From Milton Township, Ashland County, by W. Purgert, June 11. WEST VIRGINIA - From Union Magisterial District, Preston County, by R. Barnoski, June 9, 1976. NEW YORK - From Camillus Township, Onondaga County, by J. Ellenburg, June 11, 1976. From field insectary in Enfield Township, Tompkins County, by P. Gerber, June 15. Unless otherwise given, all above determined by cereal leaf beetle lab personnel at Niles, Michigan. All above are new county records. (PPQ). T. julis also taken in following States. INDIANA - Nineveh Township, Johnson County, June 7; Penn and Madison Townships, St. Joseph County, June 14 and 19, respectively. MICHIGAN - Mussey Township, St. Clair County, June 14. NEW YORK - Coshocton Township, Steuben County, June 15. (PPQ).

A MYMARID WASP (Anaphes flavipes) - WEST VIRGINIA - Adults recovered from Oulema melanopus (cereal leaf beetle) eggs collected from oats in Banks Magisterial District, Upshur County, June 3, 1976, and Clark Magisterial District, Harrison County, June 4. Collected and determined by A. Tustin. These are new county records. (PPQ).

AN ICHNEUMONID WASP (Lemophagus curtus) - Recovered from Oulema melanopus (cereal leaf beetle) larvae collected in following States for new county records. MICHIGAN - From oats in Mussey Township, St. Clair County, by H. Liverance, June 16, 1976. OHIO - From wheat in Lawrence Township, Erie County, by W. Wille, June 4, 1976. From wheat and wild grasses in Smith Township, Mahoning County, by W. Purgert, June 9. NEW YORK - From oats in Camillus Township, Onondaga County, by J. Ellenburg, June 14, 1976. From field insectary in Enfield Township, Tompkins County, by R. Gerber, June 15. All determined by cereal leaf beetle lab personnel at Niles, Michigan. (PPQ).

ICHNEUMONID WASPS (Bathyplectes spp.) - IOWA - B. anurus reared from Hypera postica (alfalfa weevil) larvae collected from alfalfa field in Davis County. Collected by J. DeWitt, April 29, 1976. Determined by D. Bartell. First find for State since release in this field in 1975. (IA Ins. Sur.). OHIO - B. curculionis parasitized 80 percent of reared sample of H. postica larvae collected in Hardin County. Percent parasitism increased due to decreased weevil larvae. (Lewis).

FEDERAL AND STATE PROGRAMS

DISEASES

BLACK STEM RUST (Puccinia graminis) - KANSAS - Percent of infected wheat plants in later-maturing fields by county: Atchison trace, Brown 25, Doniphan 50-80, Jackson trace, Nemaha trace to 10, Marshall trace, Washington trace, Pottawatomie trace, and Riley 50. (Sim).

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - OHIO - Larval feeding damage heavy on oats, spelts, and wheat in Geauga County. Leaves white in some fields. Up to 4 larvae per plant June 7. (Skeeles). MASSACHUSETTS - Adults collected on oats and rye at Agawam, Hampden County, by P. Laurenza, June 14, 1976. Larvae collected on oats at New Braintree by W.B. Rose, June 15, and adult at West Brookfield by E.O. Stockbridge, June 18 in Worcester County. All determined by R.E. White. These are new county records. (PPQ).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - OREGON - First sprays underway in Umatilla and Marion Counties. About 66 percent of pines at Hermiston treated. Control operations will be shifted to Port of Umatilla and Hat Rock areas. Adult emergence well underway at Woodburn. Inclement weather hampered controls and about 33 percent of infested pines received first treatment. (Northcutt, Larson).

GRASSHOPPERS - NEW MEXICO - Infested 13,000 acres of range near Chama, Rio Arriba County. Averaged 18-20 per square yard. Egg laying in next 10 days. Control program now, not likely due to widespread infestations outside proposed program area. Infested 450,000-500,000 acres at Folsom, Union County. (NM Coop. Rpt.). WYOMING - Melanoplus spp., first and second instars, 6 per square yard southeast of Casper, Natrona County; Melanoplus spp. and Amphitornus coloradus, first and second instars, 2 per square yard northwest of Casper June 11. (Workman). MONTANA - Grasshoppers

heavy, 10-30 per square yard, in many areas. Some third and fourth-instar nymphs, very few adults, and many first instars. (Bain, Jensen). NORTH DAKOTA - Grasshoppers ranged 8-40 (averaged 15) per square yard on rangeland on Fort Berthold Indian Reservation. Many species ranged first through third instar with 90 percent of species in first instar. (Winks). Up to 60 per square yard on McKenzie County rangeland. Amphitornus coloradus, dominant, nymphs ranged first through third instar. (Brandvik).

MORMON CRICKET (Anabrus simplex) - NEVADA - Large bands of adults discovered in Bailey Mountain, Coffin Mountain, Maples Canyon, Sulfur Spring Range areas, Elko County. Survey indicates 5 separate areas, comprising 4,000 acres of rangeland, infested in this area. (Kail). IDAHO - Controls continued at Midvale, Washington County, week of June 11. Additional control planned on Pine Creek, Sage, and Demmitt Creek, outside original Midvale area. Small isolated bands at Rockland, Power County, treated when found or accessible. New reports at Little Creek, Elmore County; Upper Little Willow Creek, Payette County; and Alexander Flats, Boise County. (Pollard).

SCREWORM (Cochliomyia hominivorax) - Total of 557 cases reported from continental U.S. May 30 to June 5 as follows: Texas 546, New Mexico 3, Arizona 8. Total of 490 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 345 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 152,749,500 as follows: Texas 129,790,500; New Mexico 16,659,000; Arizona 6,300,000. Total of 5,557,500 sterile flies released within Barrier of Mexico. (Vet. Serv.).

DETECTION

NEW CONTINENTAL UNITED STATES RECORD

INSECTS

A THRIPS (Dichromothrips corbettii (Priesner)) - FLORIDA - Lee County. (p. 341).

NEW COUNTY RECORDS

INSECTS

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - CALIFORNIA - Ventura (p. 337).

CEREAL LEAF BEETLE (Oulema melanopus) - MASSACHUSETTS - Hampden, Worcester (p. 345).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Washington, Jackson, Lawrence, Orange, White; OHIO - Franklin, Shelby, Champaign, Erie, Sandusky, Mahoning, Ashland; WEST VIRGINIA - Preston; NEW YORK - Onondaga, Tompkins (p. 344).

GRAPE MEALYBUG (Pseudococcus maritimus) - ALABAMA - Madison (p. 341).

AN ICHNEUMONID WASP (Lemophagus curtus) - MICHIGAN - St. Clair; OHIO - Erie, Mahoning; NEW YORK - Onondaga, Tompkins (p. 345).

A MYMARID WASP (Anaphes flavipes) - WEST VIRGINIA - Upshur, Harrison (p. 344).

A SOFT SCALE (Ceroplastes ceriferus) - ALABAMA - Calhoun (p. 341).

A SOFT SCALE (Pulvinaria acericola) - ALABAMA - Coffee (p. 342).

A SOFT SCALE (Toumeyella cerifera) - ALABAMA - Houston (p. 341).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - MISSISSIPPI - Oktibbeha (p. 342).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - ALABAMA - Dale (p. 342).

HAWAII PEST REPORT

General Vegetables - LEAFMINER FLIES (Liriomyza spp.) infestations (on 50-90 percent of leaves on all crops) and damage generally moderate to heavy on 0.5 acre of green onions and watermelon at Waianae, one acre of pole beans and 2 acres of tomato at Waianae and Waialua, Oahu. Infestations and damage on 0.25 acre of cucumber at Waianae, 0.5 acre of Chinese peas at Poamoho, and one acre of eggplant at both sites on Oahu. CARMINE SPIDER MITE (Tetranychus cinnabarinus) populations (50-100 percent of foliage infested) and damage moderate to heavy on 0.5 acre of tomato at Waialua, 0.5 acre of Chinese peas, and 0.25 acre of eggplant at Poamoho and 2 acres of pole beans at Waianae, Waialua, and Pupukeya, Oahu. Feeding damage, to pods and plants, heaviest on pole beans. (L. Nakahara).

Ornamentals - HEMISPHERICAL SCALE (Saissetia coffeae) counts heavy and damage moderate on 100-foot crepe gardenia hedge at Hilo, Hawaii Island. Infested half of plants (nearly all branches infested; 80 percent defoliation on affected plants). (Matayoshi et al.). ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) infested 4 rose plants at Waiau, Oahu. Now known to occur from Koko Head to as far west as lower Heeia and Waiau, Oahu. (Kumashiro et al.).

Turf and Pasture - ARMYWORM (Pseudaletia unipuncta) damage and counts heavy (one egg mass and 14 larvae per square foot) on about 3,000 acres of kikuyagrass at Volcano, Hawaii Island. (Yoshioka et al.).

Beneficial Insects - A GALL FLY (Procecidochares alani) moderate to heavy (50-75 percent of terminals with galls) between 50 to 1,400-foot elevation during survey of Hamahua pamahani at various east and westside localities on Hawaii Island. Only 5-40 percent of terminals galled between 2,500 to 4,000-foot elevation. Defoliation by a PTEROPHORID MOTH (Oidaematophorus sp.) on less than 10 percent at Kaumana (1,400 foot elevation), 10-100 percent between 2,500 to 4,000-foot elevation in other locations. Heavy larval activity confined to areas shaded or under cover. (Matayoshi, Yoshioka).

LIGHT TRAP COLLECTIONS

[illegible]

WEATHER OF THE WEEK ENDING JUNE 20

Reprinted from Weekly Weather and Crop Bulletin Supplied by National Weather Service, NOAA.

HIGHLIGHTS: Paced by a gigantic high pressure system and a slow moving cold front, temperature and precipitation patterns changed slowly across the eastern portion of the Nation during the week. Associated with an eastward bound front, the heaviest rainfall focused on the central United States and extended along the Appalachians. Skies cleared and temperatures slipped under high pressure that encompassed the northern portions of the Rockies, Plains, and the midwest and reached into the central Plains.

TEMPERATURE AND PRECIPITATIONS: Southern Iowa was the main target of Monday morning's rash of thunderstorms and heavy rains created by a stationary frontal system that also brought scattered showers and some thundershowers to Tennessee northward through the Appalachians into Maine. Noontime thunderstorms intensified in portions of Kansas and Iowa. For the sixth consecutive day, a frontal system plus a low pressure center sandwiched between two large high pressure centers generated more severe weather across the Midwest. Isolated downpours pushed rivers and streams over the banks in parts of South Dakota. Minnesota claimed over half of the 15 tornadoes spawned by thunderstorms throughout the area. Aided by gusty winds and damaging hail, the outbreak injured six and caused extensive property damage. Meantime, a blast of hot air accelerated temperatures in California, Palm Springs sweltered under 102 degrees and Red Bluff 100 degrees. Skies cleared and cold air descended upon the Colorado Rockies Tuesday. The outcome was record breaking lows that included Alamosa--27 degrees and Pueblo--41 degrees. Meanwhile mild temperatures preceeded a cold front in the Ohio and middle Mississippi Valleys and the eastern Great Lakes region where afternoon highs climbed into the upper 50's. As the day progressed, temperatures dipped 20 degrees lower from the central Plains through the Upper Great Lakes region and middle Mississippi Valley as the cold front trudged slowly eastward. Showers and thundershowers occurred along and ahead of the cold front as it meandered across portions of Oklahoma and Arkansas through Missouri and Illinois. Thunderstorms in advance of the front caused flash floods in isolated Texas areas. In downtown Houston, over 7 inches of rain fell during the afternoon. Other showers and thundershowers wandered through southern New England and upper New York and along the coast from South Carolina through Florida. Elsewhere, a frontal system in the Northwest initiated the return of wet weather along the Washington coast.

Extending from northern New England into southern Texas, a cold front produced an abundance of midweek precipitation across the Nation. Thunderstorms drummed along the system from the Coastal Bend of Texas into the central Mississippi Valley and northern New England. Forecasters traced another area of showers from southern Florida into southwest Virginia. Along coastal California, the return of mild weather took the edge off the hot blast that smothered the area earlier in the week. Meantime, unseasonably cool air cut its way into the central United States producing record lows as far south as Midland, Texas,--53 degrees. In the late evening hours, gusty winds accompanied a weak cold front across

the northern Rockies lowering temperatures through Montana and Wyoming into the upper 40's and lower 50's. Thursday's wide scattered precipitation was confined mostly to the Southeast and north-central United States. Ahead of an eastward bound cold front in the midwest, lines of thunderstorms sprang up across the Plains of Oklahoma and Kansas into Missouri, Iowa, and Minnesota. As the large high pressure system funneled colder air across area, the mercury slipped lower over the northern Rockies, across the northern Plains, into the upper Mississippi Valley and into the central Plains. On Friday, a cold front gained a foothold in the Nation's midsection leaving behind unseasonably cool air across the northern portions of the Rockies and Plains and a number of record lows in South Dakota, Huron--37 degrees, Nebraska, and Iowa. Once again the slow moving system gave rise to thundershowers from portions of Texas into Oklahoma and Arkansas east into Georgia and north into the Lower Great Lakes region. Centered over the northeast, Colorado Saturday's high pressure system expanded clearing skies from the north-central States to the interior of the West. The morning mercury slipped into 30's and 40's reaching record low levels in Denver, Colorado--37 degrees and Topeka, Kansas--47 degrees. In the afternoon, temperatures in the central Plains warmed well into the 70's. As another in a series of cold fronts advanced through the northern Rockies, scattered showers and a few thunderstorms turned up in sections of Idaho, Montana, and Nevada. Sunday's weather "wrap up" showed little change in the weekly weather patterns. Sheltered by the gigantic high pressure, daily record lows included Springfield, Montana--46 degrees and Indianapolis, Indiana--50 degrees. Thanks to a slow moving cold front, showers and thundershowers, locally heavy in places, persisted from the eastern Great Lakes region across the Appalachians into the southern Atlantic and eastern Gulf States. In the Northeast, precipitation intensified into the nighttime hours.

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK MID-JUNE TO MID-JULY

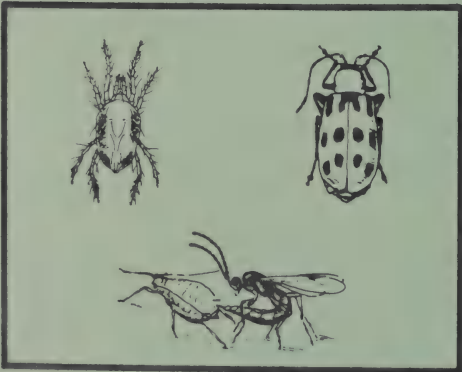
The National Weather Service's 30-day outlook for mid-June to mid-July is for temperatures to average below seasonal normals over most of the South and in the Northwest. Above normal averages are indicated from the Great Lakes to New England as well as over the central and southern Rocky Mountains and southern portions of both the Plateau and the Pacific Coast. In unspecified areas near normal temperatures are in prospect. Rainfall is expected to exceed the median amount east of the Mississippi River and also over the southern Great Plains, the lower Mississippi Valley and the Northwest. Elsewhere less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

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Cooperative PLANT PEST REPORT



Animal
and Plant
Health
Inspection
Service

U.S.
DEPARTMENT
OF AGRICULTURE



This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

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Hyattsville, Maryland 20782



July 2, 1976

1(26):351-378

COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

ARMYWORM severe in Pennsylvania and New York, in addition to Ohio and Michigan. (p. 353).

Heavy counts of CORN LEAF APHID (p. 353) and GREENBUG (p. 354) in Texas, Oklahoma, and Kansas.

POTATO LEAFHOPPER one or more per sweep in Oklahoma, Indiana, Ohio, and Pennsylvania. "Hopperburn" on alfalfa in West Virginia. (pp. 354-355).

CORN ROOTWORM damage in Nebraska and South Dakota. (pp. 356-357).

WHEAT LEAF RUST infections of 50 percent or higher in areas of Kansas and Nebraska. (p. 357).

ALFALFA WEEVIL severe in Nevada. Damaged alfalfa regrowth in Nebraska and Iowa. (p. 358).

FIRE BLIGHT locally severe in Wisconsin and New York. (p. 363).

FALL CANKERWORM outbreaks in New York. (p. 365).

BLACK STEM RUST infection up to 40 percent in area of Kansas. (p. 369).

Detection

- A WHITEFLY new to the United States was collected in Hawaii. (p. 372).

New State records include a EULOPHID WASP in Vermont (p. 368) and BROWN GARDEN SNAIL in Hawaii (p. 372).

A SOFT SCALE in Florida (p. 365) and a CECIDOMYIID MIDGE in South Carolina (p. 366) are on new hosts.

Special Reports

Distribution of Mimosa Webworm (Map). (p. 376).

Reports in this issue are for the week ending June 18, unless otherwise indicated.

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SPECIAL PESTS OF REGIONAL SIGNIFICANCE

INSECTS

ARMYWORM (Pseudaletia unipuncta) - NEBRASKA - Adults heavy, 500 June 20-22, in Hall County light trap. (Raun). MICHIGAN - Reported in Lenawee, Monroe, Luce, Branch, Clare, and Bay Counties week ending June 18. Small larvae light in Sanilac County. Conditions similar to outbreak in 1975. (Ruppel). OHIO - Widespread damage to wheat and corn continued. Severe outbreaks spotty statewide. Many fields sprayed. Larvae, 4 per foot of row, damaged no-till corn field in Guernsey County. (Lewis et al.). VIRGINIA - Larvae on Montgomery County field corn June 4. Infested 5 percent of 18-inch field corn on 19 acres in Nottoway County June 14. (Leslie). PENNSYLVANIA - Larvae on 95 percent of no-till corn at State College, Centre County, caused 50+ percent to be eaten to ground, with rest severely damaged. Parasitism 20 percent. (Shetlar). NEW YORK - Larvae heavy, 2-3 per plant, on 50-100 percent of several no-till cornfields in Sullivan County. Controls excellent. (NY Wkly. Rpt.). Severe on corn, especially no-till, in Niagara, Wyoming, and Wayne Counties. (Gyrisco, Muka).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Up to 70 per 100 sweeps of oats in Dodge County. (WI Pest Sur.). MINNESOTA - Still stable. Averages per 100 sweeps by host and county: Oats - Benton 60, Morrison 300, and Wadena 60; barley - Sherburne 60; and wheat - Dakota 20, Goodhue 20, Mower 100, and Rice 10. No economic damage; oats and wheat heading out and grain ripening. (MN Pest Rpt.).

CORN EARWORM (Heliothis zea) - TEXAS - Some problems on grain sorghum in McCulloch and Mitchell Counties. (Wilson). Increased on sweet corn in gardens across Trans-Pecos area. (Neeb). KANSAS - Eggs on 20 percent of silking sweet corn in garden in Douglas County. (Bell). ALABAMA - Larvae 1-2 per 10 feet of row in corn ears in late milk stage in 50-acre field in Autauga County. Larvae infested buds of corn in Lauderdale County. (Burn et al.). FLORIDA - Increased, infested 70 percent of corn ears in Jackson County; mostly small larvae week ending June 18. Currently, early instar larval infestations increased from 10-20 to 50 percent of ears on 10 acres of sweet corn 7 miles southwest of Gainesville, Alachua County. (FL Coop. Sur.). VIRGINIA - Larvae spotty and light in whorls of Amelia County corn June 18. (Holmes). Large larvae infested half of plants in Cumberland County field. (Allen).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Counts on grain sorghum by county: Coke, McCulloch, Tom Green, Runnels, Hale, and area of Rolling Plains moderate to heavy; and Lubbock and panhandle areas light. (Wilson et al.). OKLAHOMA - Counts on sorghum by county week of June 18: Okmulgee moderate to heavy; Payne averaged 30 per plant; Wagoner moderate; Texas, Washita, and Caddo light. (OK Coop. Sur.). KANSAS - Counts by county: Morris moderate to heavy in whorls of 10-inch sorghum, Riley averaged 200 per whorl on 14-inch sorghum, and southwest area appeared on sorghum. (Bell). MISSOURI - Still light to moderate on 3-32 percent of sorghum in west-central area. Very little leaf discoloration. (Munson). INDIANA - First reports (means of 0.8 to 2.2 per whorl) on Clinton County corn. (Anderson). MARYLAND - Less than 10 percent of corn infested in north counties. (U. Md., Ent. Dept.).

GREENBUG (*Schizaphis graminum*) - TEXAS - Counts on grain sorghum by county: Tom Green, Runnels, Callahan, and Mitchell light but increasing; Blackland area increased heavily past 14 days in some fields, some controls applied; Bell about 2,000 per larger leaf in 2 localities; Jones and Fisher increased greatly in some irrigated fields; Martin, Howard, and Glasscock light in isolated fields; and Hale increased. (Wilson et al.). OKLAHOMA - Counts on sorghum by county week of June 18: Craig heavy, Okmulgee moderate to heavy, Wagoner light where treated 3 times, Washita and Caddo up to 1,000 per plant in scattered fields, Major moderate, Texas 0-6 per plant, and Cimarron 0-2 per plant, and Payne light. (OK Coop. Sur.). KANSAS - Flights into sorghum decreased sharply since June 10 over eastern two-thirds of State, except in north-central area. Still some flights in north on June 15 in Marshall, Washington, and Republic Counties. Decreases very unusual. Currently, generally none to trace on sorghum statewide. Averages per plant on very earliest planted sorghum by county: Riley 440 and 90 in 2 fields of 14 to 16-inch sorghum, Leavenworth 10 on 16-inch sorghum, and Morris 10 on 10-inch sorghum. (Bell).

NEBRASKA - Greenbug counts on 8-inch susceptible sorghum under dryland (and under irrigated) conditions in Clay County: Untreated 13.1 (7.0), treated at planting time 13.5 (1.8), treated June 16 on foliage 5.8 (0.03). Up to 500 (averaged 100) per plant, mostly in whorls, in adjacent plantings of susceptible grain sorghum, resistant grain sorghum, and forage sorghum; little difference in counts on the 3 varieties. Resistant sorghum showed some yellowing; other 2 varieties yellowed and reddened. (Peters). Activity decreased somewhat, generally light where checked in central, east, and northeast districts. Hot, dry winds keeping counts light. (Raun, Witkowski). Average of 3.9 per plant on resistant sorghum in 9 fields at Mead, Saunders County. (Mayo). Light (6-7 per plant, deep in whorl) where checked in Lincoln, Red Willow, and Dawson Counties. (Campbell, Boxler). SOUTH DAKOTA - Activity continued on milo fields, some controls applied. Counts varied, heavy in spots in south-central area. (Kantack). OHIO - Heavy counts severely damaged bluegrass lawns in central and southwest areas. Turf shows light orange cast. (Niemczyk).

POTATO LEAFHOPPER (*Empoasca fabae*) - OKLAHOMA - Averaged 50 per 10 sweeps of alfalfa in Sequoyah County week of June 18. (OK Coop. Sur.). WISCONSIN - First nymphs of season on Grant County alfalfa. Adults 4-44 per 100 sweeps on second-growth alfalfa in southwest and south-central counties. Up to 16 per 100 sweeps in almost all potatoes in Spring Green and Central Sands areas and on beans in latter area. Increased on alfalfa; found on peas, alfalfa seedlings, and soybeans. (WI Pest Sur.). INDIANA - Builds up slow on alfalfa. Heaviest count of 1.3 per sweep economic on 6-inch alfalfa; few fields borderline economic; nymphs generally trace in north and south districts. (Wilson). OHIO - Averages per 100 sweeps of second-growth alfalfa by county: Lucas 80, Fulton 54, Williams 34, Wood 80, Henry 16, Paulding 46, Sandusky 102, Seneca 64, Medina 270 on new seeding and 154 on second growth, and Ashland 10-280. Sprays underway in northeast area. (Thoburn et al.). WEST VIRGINIA - "Hopperburn" on one-fourth of alfalfa checked in Brooke and Hancock Counties. (Hacker). PENNSYLVANIA - Counts per sweep by county: Snyder, Clinton, Union, and Centre 0.5 in untreated

fields, plants after first cutting in good condition: Washington 0.3; and Butler 1.5. (Coursen et al.). NEW YORK - First potato leafhoppers of season swept June 10 in Tompkins County. (Dell, Muka).

TOBACCO BUDWORM (*Heliothis virescens*) - FLORIDA - Heavy in flower heads of shade tobacco growing through top of shades at Quincy, Gadsden County, June 18. Currently light on flue-cured type of tobacco at Live Oak, Suwannee County; topping operation on tobacco reduced population. (FL Coop. Sur.). ALABAMA - Infested 40 acres of tobacco at Red Level, Covington County. Controls applied. (Pike).

CORN, SORGHUM, SUGARCANE

DISEASES

MAIZE DWARF MOSAIC VIRUS - KANSAS - Affected a few corn plants in Douglas and Leavenworth Counties. (Sim).

COMMON MAIZE RUST (*Puccinia sorghi*) - FLORIDA - Infested all corn fields in Jackson County week ending June 18. (FL Coop. Sur.).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - KANSAS - Almost all first-generation eggs hatched on corn in south-central, southeast, and east-central areas up to Kaw Valley week of June 18. Percent of stalks showing "shotholing" in whorls by county: Neosho 0-24, Labette 8, Shawnee 36, Douglas 0-12, Barton 10, Edwards 2, Stafford 0-9. No larvae bored into plants in south-central area. (Bell). KANSAS - Average percent of corn plants with "shotholed" whorls by county: Johnson 0-16 and Leavenworth 8-16 on 4 to 5-foot corn. (Bell). NEBRASKA - Eggs, larvae, and/or leaf feeding 10-80 (averaged 30) percent in about 200 corn fields in Merrick, Hall, York, and Fillmore Counties. Corn 28-45 inches extended leaf height. Adults few. (Raun).

MISSOURI - European corn borer status on corn by area: West-central and southwest 0-20 larvae per 100 plants, 0-81 percent leaf feeding; central 2.1 larvae per plant, averaged 2.9 egg masses per 100 plants, 0-33 percent leaf feeding; and north-central 2.4 larvae per plant, averaged less than one egg mass per 100 plants, 0-57 percent leaf feeding. (Munson). IOWA - Larvae, second to third instars, damaged field corn in Woodbury, Ida, Plymouth, and Polk Counties. Infested 2-80 percent of plants. Damage to be heaviest in west and southeast counties. Heavy rains in central counties drastically reduced egg laying moths. (IA Ins. Sur.).

ALABAMA - Older European corn borer larvae and pupae in 10+ percent of cornstalks in several Autauga and Lauderdale County fields. Heavy flight in Autauga County field. (Burns et al.). KENTUCKY - Infestation averaged 45 percent on 30-acre corn field in Anderson County. (Gregory). ILLINOIS - Activity very light on corn in north and central counties. Little first brood damage projected. (IL Ins. Rpt.). WISCONSIN - Counts subsided in black-light traps at south sites but catches steady at some north and east sites. Infested fewer than 16 percent corn. (WI Pest Sur.).

INDIANA - European corn borer feeding light on about 9 percent of corn in 35 fields in south districts. Larvae, mostly second instars, averaged about 0.8 per stalk with occasional midrib feeding, on corn not in tassel-in-whorl stage. Infestations 0-30 percent. (Meyer). OHIO - Decrease continued in blacklight traps at Wooster, Wayne County. Peaked June 9, adults averaged 14 per trap per night. Egg masses one per 500 plants in northwest area. Larval "shothole" damage on average of 10 percent of plants in continuous corn in Fulton, Williams, Defiance, and Henry Counties. Larvae, 0.13-0.25 inch, in whorl of damaged plants. (Lewis). Damage in Ashland County light except for one field with 72 percent damage. (Lewis, Snyder).

MARYLAND - European corn borer unusually light statewide with feeding injury on one percent of corn plants. Blacklight trappings nearly zero indicating population between first and second broods. (U. Md., Ent. Dept.). DELAWARE - Mostly fourth and fifth-instar larvae in early planted field corn. (Burbutis, Kelsey). NEW YORK - First eggs found June 10 in Erie County on about 6 percent of 8 to 12-inch corn. (Rutkowski).

SOUTHWESTERN CORN BORER (*Diatraea grandiosella*) - TEXAS - Overwintered borers pupated in most of Texas Panhandle; adults in some of more southern areas. First-generation larvae in some Hale County corn. Heaviest plant infestation of 5 percent. First-generation adults emerged at Lubbock, Lubbock County. (Patrick et al.). KANSAS - Almost all first-generation eggs hatched on corn in Barton, Stafford, and Edwards Counties week ending June 18. Larval infestations numbered one in Edwards County and on about 10 percent (larvae up to 0.4 inch in whorls) of 18-inch corn in Barton County field with high winter larval survival. Larvae, 0.5-inch, generally light in whorls of corn in Haskell, Stevens, and Grant Counties. (Bell). ALABAMA - Older larvae and pupae heavy in 2 corn fields in Autauga County. Larvae averaged 1-5 per 10 feet with 1-3 per stalk. Heaviest infestation of first-generation larvae ever in State. (McQueen).

BLACK CUTWORM (*Agrotis ipsilon*) - IOWA - Late-instar larvae damaged 2-foot corn in Scott and Washington Counties. Larvae feeding underground and tunneling into stalks. (IA Ins. Sur.). NEW YORK - Severe on corn statewide including Broome, Onondaga, Orleans, and Clinton Counties. (Gyrisco, Muka). Damage of 50 percent common in heavy soils of Clinton County; many fields replanted. (Thomas).

FALL ARMYWORM (*Spodoptera frugiperda*) - FLORIDA - Very heavy, 150 males per night, in pheromone grid trap at Hastings, St. Johns County; larvae heavy on untreated field corn planted in May. (FL Coop. Sur.). KANSAS - First adult of season in blacklight trap in Kiowa County. (Bell).

CORN ROOTWORMS (*Diabrotica* spp.) - NEBRASKA - Larval status on corn by county: Merrick, Hall, York, and Fillmore mostly second or early third instars averaged 0.25 per plant in 160 treated, irrigated fields and averaged less than one per plant in 40 untreated irrigated fields; Cedar and Antelope averaged 6 per plant in one treated and 2 untreated fields, Clay second instar damaged roots noticeably in experimental plots; Saunders averaged 126 per plant in trap crop areas at Mead, some corn beginning to lodge, about half of larvae still in first instar and less than one percent in prepupal stage. (Raun et al.). SOUTH DAKOTA - Larval

damage in field corn on June 16. Few third instars. (Kantack). MINNESOTA - Second and third instars of Diabrotica spp. on corn in Waseca and Ramsey Counties. Development 7 days earlier than in 1975, some adults expected after July 4. (MN Pest Rpt.). MISSOURI - WESTERN CORN ROOTWORM (D. virgifera) larvae, pupae, and adults on corn in west-central and southwest area. Light, up to 5 larvae and pupae per plant. (Munson). ILLINOIS - D. virgifera and NORTHERN CORN ROOTWORM (D. longicornis) larvae up to 8 per corn root in north area field. (IL Ins. Rpt.).

YELLOW SUGARCANE APHID (Sipha flava) - ARKANSAS - Taken on sorghum for new county records: Near Walnut Ridge, Lawrence County, June 14, 1976; near Bono, Craighead County, June 15; near Harrisburg, Poinsett County, June 16. All collected and determined by W.P. Boyer. (Boyer). TEXAS - Continued to increase on grain sorghum in Blackland checked. Light in few fields in Jones and Fisher Counties. (Hoelscher, Boring). KANSAS - Averaged 15 per plant week of June 18 on 6-inch sorghum in Labette County for highest average recorded this year. Some leaf damage. Averaged 7 per 3-leaf plant in Douglas County and trace in Anderson and Dickinson Counties. (Bell).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Problem on seedling sorghum in Nemaha, Washington, and Republic Counties. Some fields destroyed, replanted and reinfested. Light on some sorghum in Harvey and Sedgwick Counties. (Bell).

SMALL GRAINS

DISEASES

WHEAT LEAF RUST (Puccinia recondita var. tritici) - KANSAS - Infected up to 65 percent of wheat in Brown County and up to 50 percent in Jewell County. (Sim). NEBRASKA - Significant increase in south-central and southeast areas week ending June 18, infected 50-70 percent of susceptible wheat varieties. (Watkins et al.).

OAT CROWN RUST (Puccinia coronata var. avenae) - KANSAS - Widespread but generally light on oats. Percent of infection by county: Dickinson 5-20, Marion 5, Harvey 5, Rice 3, McPherson trace, and Miami 15. (Sim).

OAT LOOSE SMUT (Ustilago avenae) - WISCONSIN - Percent of oat heads infected in one field each per county: Western Dane 3-4, southern Grant heavy on 20, and Lafayette 5. (WI Pest Sur.).

WHEAT POWDERY MILDEW (Erysiphe graminis var. tritici) - KANSAS - Severe on some plant heads in wheat field in Jewell County. (Sim).

BARLEY YELLOW DWARF VIRUS - KANSAS - Continued to affect oats. Infected 70 percent of field in Miami County; half of heads blasted. (Sim).

TURF, PASTURES, RANGELAND

INSECTS

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Infested 450,000-500,000 acres of range in Union, Colfax, Harding, and Mora Counties week of June 18. Currently averaged 4-6 per square yard of range south of Clayton, Union County. (NM Coop. Rpt.).

BLUEGRASS BILLBUG (Sphenophorus parvulus) - NEBRASKA - Larval damage beginning where adults one or more per square foot earlier in year in many untreated bluegrass lawns and commercial sod operations in eastern third of State. (Kindler).

FORAGE LEGUMES

DISEASES

ALFALFA DOWNY MILDEW (Peronospora trifoliorum) - WISCONSIN - Infected 10 percent of Dane County alfalfa field newly seeded under oats. Severe on lower leaflets. (WI Pest Sur.).

COMMON LEAF SPOT (Pseudopeziza medicaginis) - KANSAS - More widespread on second-cutting alfalfa but light to date. Trace in Dickinson, Ottawa, Saline, and Geary Counties. (Sim).

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEVADA - Recently emerged adults 5-15 per sweep and mostly second-instar larvae 10-20 per sweep on hay alfalfa in north end of Fish Lake Valley, Esmeralda County. Severe damage to some fields indicated larvae from late hatch. (Knight, Lauderdale). NEBRASKA - Adults moving from stacks and causing localized damage to regrowth of forage legumes in Antelope, Holt, and Knox Counties; lack of moisture delaying regrowth. Counts trace on regrowth in 5 fields in Lincoln, Red Willow, and Dawson Counties. (Campbell, Boxler). NORTH DAKOTA - Larvae up to 46 per 100 sweeps of regrowth alfalfa in Williams County. (Brandvik). MINNESOTA - Larvae per 100 sweeps of alfalfa by county: Benton 20, Morrison 10, and Wadena 16. First cutting completed statewide. Economic levels not expected. No larvae in second-growth alfalfa in southeast district. (MN Pest Rpt.).

IOWA - Adults prevented alfalfa regrowth in Cherokee and Sac Counties. (IA Ins. Sur.). WISCONSIN - Recently hatched larvae in Sauk County second-growth alfalfa field. Larvae 0-40 per 100 sweeps of second-growth alfalfa in southwest and south-central counties. Reduced 50 percent or more of yield in first-cutting alfalfa in northern Door County. (WI Pest Sur.). ILLINOIS - Adult feeding damaged previously cut Mercer County alfalfa field. (IL Ins. Rpt.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NORTH DAKOTA - One adult per 100 sweeps of Nelson County alfalfa, June 22, 1976. Collected and determined by C.G. Scholl. This is a new county record. (Scholl).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEVADA - This species and PEA APHID (A. pisum) 5-50 per sweep of seed alfalfa at Lovelock, Pershing County, except in one field with 150-200 per sweep. A. kondoi up to 20 percent of population. (Bradley et al.). Mostly A. kondoi 100-250 per sweep of first-growth hay alfalfa and 28-55 per sweep of second-growth in Hualapai Valley, Washoe County. (Knight). KANSAS - A. kondoi collected from alfalfa for new county records. At Virgil, Greenwood County, June 8, 1976, at Independence, Montgomery County, Altoona, Wilson County, and Mound Valley, Labette County, June 9, and at Hutchinson, Reno County, June 11; collected by E.L. Eshbaugh and E.L. Sorenson. At Abilene, Dickinson County, Claflin, Barton County, and Brookville, Saline County, June 15, and at Belpre, Edwards County, and Zook, Pawnee County, June 16; collected by K.O. Bell. All above determined by K.O. Bell. At Scandia, Republic County, June 15 and at Bennington, Ottawa County, June 16; collected and determined by J.D. Lambley. At Iola, Allen County, June 16; collected and determined by B.D. Hilbert. (Bell).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - MINNESOTA - Still heavy on alfalfa. Averages per 100 sweeps by county: Dakota 80, Houston 150, Olmsted 150-200, Wabasha 40, Winona 40, Benton 100, Morrison 100, Wadena 200. (MN Pest Rpt.). WISCONSIN - Adults on peas, alfalfa, snap beans, potatoes, and oats. Up to 3 per sweep of alfalfa and peas in Central Sands. (WI Pest Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MINNESOTA - Still heavy. Averages per 10 alfalfa stems by county: Goodhue 20-30, Houston 6-10, Wabasha 20-30, Rice 3-5. Moved to nearby small grains after alfalfa was cut. (MN Pest Rpt.).

SOYBEANS

DISEASES

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - WISCONSIN - Early stages on lower leaves of scattered soybeans in several Grant and Iowa County fields. (WI Pest Sur.).

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Overwintered adults and first field generation larvae damaged several hundred acres of soybeans in Madison, Cherokee, and Calhoun Counties. Occasional adult and larva in Autauga County. (Linton et al.). TENNESSEE - Averaged 2+ per foot of soybean seedlings in Lincoln County; 300-500 acres treated. Damaging counts on seedlings in several fields in Franklin County; 500 or more acres treated. (Winsett, Cagle). INDIANA - Early feeding widespread on soybeans especially in southeast district, and adults north to Dearborn County. Egg masses common in south-southeast area, up to nearly one per linear yard in one field, some hatched. Many mating. (Meyer).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - FLORIDA - First larva of season from untreated soybeans at Quincy, Gadsden County, June 16; middle to late-instar larvae averaged one per 3 feet of row June 23. First adult of season in blacklight trap at Gainesville, Alachua County, June 23. (FL Coop. Sur.).

PEANUTS

INSECTS

BEE T ARMYWORM (Spodoptera exigua) - FLORIDA - Larval average one per foot of row, building up on peanuts in 80-acre field at Williston, Levy County. (FL Coop. Sur.).

TOBACCO THRIPS (Frankliniella fusca) - FLORIDA - Increased. Averaged 14 per bud on untreated young peanuts, 9 per bud on untreated older plants, at Greenwood, Jackson County. (FL Coop. Sur.).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Adults still captured in pheromone traps in Howard and Glasscock Counties. Overwintered adults on cotton in Hardeman, Jones, and Knox Counties. Problems increased in Blackland area. Weevils in several fields in Runnels and Mitchell Counties. (Neeb et al.). ALABAMA - Adults still light and spotted in all north counties on 60+ percent of State's 500,000 acres of cotton. Adults 25 in 25 sex-lure traps on farm in Colbert County past 10 days. (Rose). Adults 2 on 1,850 row feet on 3 adjacent fields at Red Level, Covington County. (Pike). Punctured 17-25 percent of squares in 2 of 3 fields where squaring light in Covington County. Cotton began to square in Lauderdale County. (Deavours et al.). MISSISSIPPI - Adults 4.8 per sex-lure trap June 1-15. Currently, damaged squaring cotton in Monroe County. (Anderson). SOUTH CAROLINA - Damaged 12-14 percent of freely squaring cotton in 50-acre Richland County field. Weather favored plant growth. Adults in 32 grandlure traps in 30-acre field in Orangeburg County decreased from 17.3-5.3 week of June 18 to 2.5 per trap currently; plants more attractive than traps. (Walker).

BOLLWORMS (Heliothis spp.) - SOUTH CAROLINA - Eggs 30 per 100 cotton plants on 30 acres in several Edgefield County fields. Plant growth ranged presquare to squaring freely. (Douglass). ALABAMA - Flights light statewide. Eggs 1-5 per 100 cotton terminals in south and central areas; biological controls effective. (McQueen). MISSISSIPPI - Egg infestations up to 5 percent on cotton in Noxubee, Sunflower, and Leake Counties. Larval infestation 2 percent on squares in Monroe County. (Anderson). LOUISIANA - Adults of H. virescens and H. zea light on cotton. Predators and parasites plentiful. (Tyne). TEXAS - H. zea eggs definitely increased on cotton in Blackland area. Increased in Williamson and Milam Counties. (Hoelscher, Glodt).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSISSIPPI - Infested 15 percent of squaring cotton in Sunflower and Monroe Counties. Occasional adult and nymph on cotton in Noxubee, Sunflower, and Carroll Counties. Heavy on weed hosts along field margins statewide. (Anderson).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Increased on cotton past 10 days in Blacklands. Light in El Paso, Hudspeth, Pecos, Howard, Martin, Fisher, and Jones Counties. Remained relatively light in Williamson and Milam Counties. (Hoelscher et al.).

COTTON APHID (Aphis gossypii) - TEXAS - Light to heavy on cotton in Martin and Howard Counties. Light in Fisher, Jones, and Wichita Counties. (Latham et al.). OKLAHOMA - Very heavy in spots of some cotton fields in Caddo and Washita Counties week ending June 18. (OK Coop. Sur.).

A THRIPS - TEXAS - Infested most cotton fields checked at Lubbock, Lubbock County. Light to moderate in El Paso, Hudspeth, Pecos, Martin, Howard, Glasscock, and Hale Counties. Moderate to heavy in several fields in Fisher, Jones, Stonewall, and Wichita Counties; some controls applied. Heavy on replanted cotton germinating in Blacklands area. (Morrison et al.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - MISSISSIPPI - Heavy on cotton in Coahoma, Sunflower, and Monroe Counties. Several Monroe County fields treated. (Anderson).

TOBACCO

INSECTS

GREEN PEACH APHID (Myzus persicae) - FLORIDA - Decreased at Live Oak, Suwannee County, due to topping operation of tobacco but heavy on sucker growth. Heaviest of last 21 years on tobacco under 2 shades at Quincy, Gadsden County. Control efficiency reduced by weather and insufficient coverage. (FL Coop. Sur.).

MISCELLANEOUS FIELD CROPS

INSECTS

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Some heavier adult catches per trap per week by county week of June 14: Bailey 1,044; Crosby 2,902; Floyd 6,129; Hockley 2,119; Lamb 1,248; Terry 5,400; and Yoakum 1,742. (Ward).

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Adults in one Hale County sunflower field that had initiated flowers. (Latham).

POTATOES, TOMATOES, PEPPERS

DISEASES

EARLY BLIGHT (Alternaria solani) - TENNESSEE - Damage to tomatoes moderate to heavy in west area. (Locke).

INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - RHODE ISLAND - Feeding unusually heavy on Washington County commercial potatoes despite systemic controls. (Partyka, Wallace).

POTATO FLEA BEETLE (Epitrix cucumeris) - WEST VIRGINIA - Adults damaged 40-50 percent of potatoes in Brooke County. (Hacker).

POTATO TUBERWORM (Phthorimaea operculella) - MONTANA - Larvae defoliated tomato plants at Shelby, Toole County. (Jensen).

SOUTHERN GREEN STINK BUG (Nezara viridula) - MISSISSIPPI - Heavy on bell pepper plants in George and Perry Counties. Fruit severely distorted with hard calluses around feeding punctures. Loss of \$1.25 per bushel. Expected to spread to other parts of State. (Anderson).

FOXGLOVE APHID (Acyrtosiphon solani) - OHIO - Up to 20 per leaf in commercial potato field in Sandusky County. (Lewis).

POTATO APHID (Macrosiphum euphorbiae) - OHIO - Heavy, 0-30 per leaf on garden tomatoes in Franklin County. (Dowell).

BEANS AND PEAS

INSECTS

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - Heavy on southern peas at Quincy, Gadsden County. (FL Coop. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - MARYLAND - Heavy and economic in some snap bean plots in Dorchester County. (U. Md., Ent. Dept.).

CUCURBITS

DISEASES

ERWINIA BACTERIAL WILT (Erwinia tracheiphila) - TENNESSEE - Sporadic infection of cucumbers in several isolated gardens and fields in central area. (Sauve et al.).

INSECTS

STRIPED CUCUMBER BEETLE (Acalymma vittata) - KANSAS - Adults and damage heavy in commercial cucumber planting in Johnson County. (Bell). NEW YORK - Adults active on vegetables June 9 in Ontario and Erie Counties. (Becker, Rutkowski). Problem reinfestations in Suffolk County June 18. (Sanok).

GENERAL VEGETABLES

INSECTS

ARGUS TORTOISE BEETLE (Chelymorpha cassidea) - MISSISSIPPI - Larvae heavily infested Marshall County sweetpotato plants. (Cochran).

DECIDUOUS FRUITS AND NUTS

DISEASES

FIRE BLIGHT (Erwinia amylovora) - WISCONSIN - Infection severe in portions of some southern orchards. No green foliage on individual apple trees. (WI Pest Sur.). NEW YORK - New infections continued to appear in west area apple orchards. Blossom infection locally severe; crop in one Wayne County orchard will be 5 percent of normal yield. Controls applied. Infection evident in few apple and pear blocks in Ulster and Orange Counties. One case in Albany County. More readily visible in Champlain Valley week of June 14 at several locations. (NY Wkly. Rpt.).

APPLE SCAB (Venturia inaequalis) - CONNECTICUT - Primary infection period on apples appears over in most of State. Fairly frequent wet periods of past several weeks discharged remaining spores. (Schroeder).

INSECTS

TORTRICID MOTHS (Platynota spp.) - PENNSYLVANIA - P. idaeusalis heaviest of last 4 years in pheromone traps in southeast counties week ending June 17. Peak expected week ending June 25. Adults 120 per trap per week in Berks County. P. flavedana catches this season heaviest in unexpected areas week ending June 17. Adults per pheromone trap per week by county: Columbia peaked at 115, Centre 53, and east and central counties averaged about 20. (Tetrault).

PEACHTREE BORER (Sanninoidea exitiosa) - RHODE ISLAND - Severely injured peaches in Providence County landscape situations. (King).

PLUM CURCULIO (Conotrachelus nenuphar) - NEW HAMPSHIRE - Continued abundant on untreated apples throughout southeast area. Adults persisted later than usual. (Fisher).

WESTERN CHERRY FRUIT FLY (Rhagoletis indifferens) - OREGON - Appeared in bait traps at Salem, Marion County, June 11, later by 10 days than in 1975. (Larson).

APPLE MAGGOT (Rhagoletis pomonella) - INDIANA - First 2 adults of year collected June 19 in New Jersey light trap on untreated apple tree in Tippecanoe County, early for this district. (Meyer).

PEAR PSYLLA (Psylla pyricola) - PENNSYLVANIA - Still very active statewide week ending June 17, especially in Columbia, York, and Adams Counties. Continuous controls needed. (Tetrault).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Counts on pecans by area: Blacklands and throughout San Angelo areas increased; Bell, McLennan, and Coryell Counties webs 3-5. (Hoelscher, Wilson).

PECAN NUT CASEBEARER (Acrbchasis nuxvorella) - TEXAS - Counts on pecans by county: Coke, McCulloch, Mason, Mitchell, Llano, and Sterling light to moderate; Ward, Pecos, Ector, Martin, Midland, Glasscock, and Upton light; and Winkler very light at Kermit. (Wilson, Neeb).

PECAN PHYLLOXERA (Phylloxera devastatrix) - TENNESSEE - Heavy on hickory and pecan trees in west area. (Locke).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Increased on pecans in Callahan, Taylor, Tom Green, and Mitchell Counties. Light to moderate on isolated trees in Brewster and Jeff Davis Counties. (Wilson, Neeb).

BLACKMARGINED APHID (Monellia costalis) - MISSISSIPPI - Very heavy on pecan trees in Coahoma and Lowndes Counties; honeydew heavy. (Neel).

SMALL FRUITS

DISEASES

RED STELE DISEASE (Phytophthora fragariae) - VERMONT - Found in 6 commercial strawberry plantings. Appears to be major problem. (Gotlieb).

INSECTS

ROSE CHAFER (Macrodactylus subspinosus) - NEW HAMPSHIRE - Adults abundant on untreated grapes in southeast area and for first time this year on grapes at New Hampton, Belknap County. (Fisher).

GRAPE BERRY MOTH (Paralobesia viteana) - PENNSYLVANIA - Spring-generation adult activity peaked. Adults 66-108 per pheromone trap per week in several grape vineyards, heaviest ever recorded during past 4 years of monitoring. (Jubb).

ORNAMENTALS

DISEASES

CEDAR-APPLE RUST (Gymnosporangium juniperi-virginianae) - WISCONSIN - Hawthorn trees an orange color in western Dane and Iowa Counties. (WI Pest Sur.).

CEDAR-HAWTHORN RUST (Gymnosporangium globosum) - KANSAS - Infected about 50 percent of hawthorn trees in Johnson County nursery. (Sim).

BOTRYTIS BLIGHT (Botrytis paeoniae) - TENNESSEE - Severely damaged peony in west area. (Locke).

INSECTS

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Heavy on ornamental evergreens in Washita and Johnston Counties week of June 18. (OK Coop. Sur.). TENNESSEE - Damaged native cedar and variety of ornamental plants statewide. (Gordon, Bruer).

ROSE CHAFER (Macrodactylus subspinosus) - WISCONSIN - Damaging populations began on roses. (WI Pest Sur.). RHODE ISLAND - First significant levels of adults on roses week of June 15. Adult emergence 7 days late. Problems much reduced from 1975 in Providence, Kent, and Washington Counties. (King et al.).

BLACK VINE WEEVIL (Otiiorhynchus sulcatus) - OHIO - Adult feeding injury apparent on evergreen azaleas and Taxus nursery plants in Cuyahoga County as of June 21. Adults moderately heavy on containerized rhododendron plants in Lake County nursery. (Endebroek et al.).

A SOFT SCALE (Eucalymnatus tessellatus) - FLORIDA - Specimens obtained from leaves of Sarracenia minor (hooded pitcherplant) at marshy area in western Putnam County June 11. This is a new host record for State. (FL Coop. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - MARYLAND - Heavy and economic on ornamentals statewide, especially on azaleas and arborvitae. (U. Md., Ent. Dept.).

FOREST AND SHADE TREES

DISEASES

DUTCH ELM DISEASE (Ceratocystis ulmi) - WISCONSIN - Symptoms very noticeable on elm statewide. (WI Pest Sur.).

OAK WILT (Ceratocystis fagacearum) - WISCONSIN - First suspect samples of oak received. (WI Pest Sur.).

SYCAMORE VENETA ANTHRACNOSE (Gnomonia veneta) - RHODE ISLAND - Damage widespread in Kent County mainly on street trees, probably peaked June 14. (Larmie).

OAK ANTHRACNOSE (Gnomonia quercina) - RHODE ISLAND - Symptoms readily apparent June 14 in Kent County especially on trees under water stress. (Larmie).

OAK LEAF BLISTER (Taphrina caerulescens) - NEW YORK - Damage to oak leaves more prevalent in Suffolk County. (NY Wkly. Rpt.).

INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - OKLAHOMA - Several large infestations on loblolly and shortleaf pines at Tom, Moon, and Haworth, McCurtain County, week of June 18; some of area salvaged. Many small spots (1-3 trees) in other areas in southern two-thirds of county. About 10 percent of these spots active. (OK Coop. Sur.).

PINE SPITTLEBUG (Aphrophora parallela) - WISCONSIN - Heavy on Scotch and white pine in Oconto County, balsam fir and Norway spruce also infested. (WI Pest Sur.).

FALL CANKERWORM (Alsophila pometaria) - NEW YORK - Outbreak in central Steuben County reaching defoliating levels for second consecutive year. (Markham, June 11). Damage moderate to maple, oak, and linden trees in Monroe County. (Miller). Severe outbreaks in 0.5 acre of woods near Gorham June 7, and in 10-acre woodlot in Richmond, Ontario County, June 9. Infested maples, oaks, basswood, hickory, and Japanese elm. (Lightfoote, MacNeil).

LINDEN LOOPER (Erannis tiliaria) - PENNSYLVANIA - Defoliation heavy in Warren County. Defoliated 80-mile-square area in southeast corner of county by week ending June 17. Scattered areas of 100 percent defoliation. Very noticeable around Sheffield and along Route 6 between Sheffield and Warren. This species appears primarily responsible. FALL CANKERWORM (Alsophila pometaria) and a GEOMETRID MOTH (Phigalia titea) present but fewer in number. Worst on basswood, red and sugar maples, ironwood, beech, and apple with some defoliation of hardwood trees in heavily infested areas. Calosoma spp. (carabid beetles) predation heavy.

CALIFORNIA OAKWORM (Phryganida californica) - CALIFORNIA - Damaged live oak trees at Sausalito, Marin County. (CA Coop. Rpt.).

MIMOSA WEBWORM (Homadaula anisocentra) - IOWA - Early stage larvae damaged locust trees in Polk and Story Counties: treatments applied. (IA Ins. Sur.). ALABAMA - First larvae of season feeding in small webs on mimosa trees at Prattville, Autauga County. Webs 1-5 per tree. (Robinett et al.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - COLORADO - Heavier than usual throughout northwest area on cottonwood, elm, apple, oak, and maple week ending June 18. (Fronk).

FALL WEBWORM (Hyphantria cunea) - TEXAS - First larvae in Hale County on elms and fruitless mulberries. (Latham).

ELM LEAF BEETLE (Pyrrhalta luteola) - CALIFORNIA - Larvae feeding on elm foliage at Madera, Madera County. Will require many controls in many areas. (CA Coop. Rpt.). MISSOURI - Seriously damaged elms in northwest area. (Burgess).

BIRCH LEAFMINER (Fenusa pusilla) - WISCONSIN - Birch defoliation severe in northeast counties. Adults in Wood County June 21. (WI Pest Sur.).

MOUNTAIN ASH SAWFLY (Pristiphora geniculata) - WISCONSIN - Defoliation of ornamentals heavy in Langlade County where larvae in first to fifth instar. (WI Pest Sur.).

A CECIDOMYIID MIDGE (Taxodiomyia cupressiananassa) - ALABAMA - Adults and galls infested Sequoia sempervirens (redwood) tree near airport at Mobile, Mobile County. Collected by L.W. Lockhart and B. Brackin, June 4, 1976. Determined by R.J. Gagne. This is a new county record. (McQueen). This is a new host record. (Gagne).

A SOFT SCALE (Pseudophilippia quaintancii) - SOUTH CAROLINA - Heavy on one pine tree on roadway on Hilton Head Island in Beaufort County on June 15, 1976. Collected and determined by D.K. Pollet. This is a new county record. (Pollet).

AN APHID (Drepanaphis acerifoliae) - WEST VIRGINIA - Moderate on silver maple tree in Kanawha County. Collected by A.R. Miller, June 23, 1976. Determined by A.E. Cole. This is a new county record. (Hacker).

MAN AND ANIMALS

INSECTS

HORN FLY (*Haematobia irritans*) - TEXAS - Counts on cattle by county: Panhandle area 200-300 per head; Brewster, Jeff Davis, Terrell, Crockett, Pecos, Reeves, Upton, and Reagan moderate to heavy; Archer heavy on dairy cattle; Wilbarger moderate to heavy on beef cattle. (Patrick et al.). OKLAHOMA - Averages per head by county week of June 18. Major 800, Payne 500, Noble 400, Delaware 150, and Craig moderate. (OK Coop. Sur.). KANSAS - Averaged 50-200 per head on range cattle in Morris and Dickinson Counties. (Bell). NEBRASKA - Averages per animal on untreated cattle by county: Lincoln, Frontier, Red Willow, Thurston, and Logan 500 week ending June 18; and McPherson, Dawson, Lincoln, Frontier, and Red Willow currently 6+. (Campbell, Boxler). ILLINOIS - Adults 4-144 per animal in north area. (IL Ins. Rpt.). KENTUCKY - Counts by county: Harrison 135 per steer, and Casey 59 per Angus cow and 72 per polled Hereford yearling. (Christensen). MISSISSIPPI - Adults heavy on cattle statewide. (Anderson). NEW HAMPSHIRE - Ranged 50-100 on beef cattle at Acworth, Sullivan County. (Berger).

FACE FLY (*Musca autumnalis*) - NEBRASKA - Averages per head on untreated cattle in river pastures and irrigated areas by county: Lincoln, Frontier, Red Willow, Thurston, and Logan 9 week ending June 18; and McPherson, Dawson, Lincoln, Frontier, and Red Willow currently 8. (Campbell, Boxler). MISSISSIPPI - Adults per head of cattle by county: Noxubee 20+, Kemper 4, Neshoba 20+. (Anderson). TENNESSEE - Increased in central area. Up to 50 per head on 150+ cattle. (Gordon, Bruer). KENTUCKY - Counts by county: Harrison 31 per cow and 14.5 per steer in wooded area; and Casey 20 per Angus cow, 16 per Angus calf, and 24 per polled Hereford yearling. Total of 41 females and 7 males taken from fence. (Christensen). NEW HAMPSHIRE - Averaged 3 per face on beef cattle at Acworth, Sullivan County. (Burger).

MOSQUITOES - TEXAS - Counts on cattle by county: Gillespie, Llano, Mason, McCulloch, and Menard moderate to heavy; Brewster and Jeff Davis increased due to recent rain. (Wilson, Neeb). MINNESOTA - *Aedes vexans* increased; *Coquillettidia perturbans* unchanged. *A. stimulans* heaviest biter followed by *A. vexans* and *A. excrucians*. (MN Pest Rpt.). TENNESSEE - Mosquitoes heavy in lowlands of west area. (Locke). MASSACHUSETTES - *Culex* spp. increasing at Amherst, Hampshire County. *A. canadensis* declined; *A. vexans* and *A. cinereus* still common. (Edman). *Aedes canadensis* heavier than 1975 in east area. *Coquillettidia perturbans* less common. (Maxfield). *C. perturbans* at peak, should continue through July. *Culex* spp. increased in east area catch basins. (Armstrong). NEW HAMPSHIRE - At least 10 *Aedes* species biting statewide. *A. stimulans* heavy in and near forested breeding areas at Epping, Rockingham County. (Burger).

BLACK FLIES - NEW HAMPSHIRE - *Prosimulium rhizophorum* and *Simulium venustum* moderate, 5-15 adults biting in 5-minute period, especially near breeding sites. *S. tuberosum* and *P. fontanum* larvae developed rapidly and in large numbers in larger cold streams throughout Waterville Valley, Grafton County. *S. venustum* completing its first generation above 2,500-foot elevation and its second generation below 1,600 feet. (Burger).

EAR TICK (Otobius megnini) - ARKANSAS - Taken on beef cattle near Dennard, Van Buren County, June 18, 1976. Collected by M.B. Silva. Determined by R.D. Gordon. This is a new county record. (Boyer).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A EULOPHID WASP (Tetrastichus julis) - Larvae recovered from Oulema melanopus (cereal leaf beetle) larvae collected from oats in these States: INDIANA - From Clay and Clifty Townships, Bartholomew County, by E. Haff, June 9, 1976. MICHIGAN - From Byron Township, Kent County, by W. Martin, June 14, 1976. OHIO - From Amboy Township, Fulton County, June 15, 1976; Pulaski Township, Williams County, June 16; Richland Township, Defiance County, Liberty Township, Hancock County, Brown Township, Paulding County, and Greensburg Township, Putnam County, all on June 17; Benton Township, Ottawa County, June 18; Liberty Township, Seneca County, June 19; all collected by W. Wille. From Orange Township, Hancock County, June 16, by W. Brown. From Bloomfield Township, Logan County, June 16, by F. Prentice. WEST VIRGINIA - From Sweet Springs, Monroe County, June 7, 1976, by J. Fulk. MARYLAND - From Accident, Garrett County, June 17, 1976, by W. Drosselmeyer. New county records for all above States. VERMONT - From Pownal Township, Bennington County, by J. Rouleau, June 23, 1976. This is a new State record. All determinations by cereal leaf beetle lab personnel at Niles, Michigan. (PPQ).

T. julis also taken in following States: INDIANA - Springfield Township, Franklin County, and Sand Creek Township, Jennings County, June 9. MICHIGAN - Overisel and Martin Townships, Allegan County, June 9-10; Burleigh Township, Iosco County, June 21; Ensley Township, Newago County, June 15; and Pine Grove Township, Van Buren County, June 9. NEW YORK - Current survey of T. julis in central area. Samples from Tompkins, Wayne, Seneca, and Ontario Counties averaged 98 percent parasitism of late instar Oulema melanopus (cereal leaf beetle) larvae. Activity in fields fewer than 0.2 per stem. T. julis reared from O. melanopus material collected at Berne, Albany County, June 11, 1976, by H. Peters; at Schoharie, Schoharie County, June 14, by R. Spaide; at Mexico, Oswego County, June 21, by J. Ellenberg; at Hillsdale, Columbia County, June 16, by R. Smullen; at Perth, Fulton County, June 17, by R. Spaide; at Shawangunk, Ulster County, and at Montgomery, Orange County, June 18, by M. Brinckehoff; and at Le Ray, Jefferson County, June 18, by H. Rockwell. All determined by cereal leaf beetle lab personnel at Niles, Michigan. These are all new county records. (Willson).

AN ICHNEUMONID WASP (Lemophagus curtus) Recovered from Oulema melanopus (cereal leaf beetle) larvae collected from oats in these States. MICHIGAN - From Overisel Township, Allegan County, June 9, 1976, and from Byron Township, Kent County, June 14, by W. Martin. OHIO - From Pulaski Township, Williams County, June 16, by W. Wille. From Orange Township, Hancock County, June 16 by W. Brown. All determined by cereal leaf beetle lab personnel at Niles, Michigan. These are new county records. (PPQ).

AN ICHNEUMONID WASP (Diaparsis spp.) - PENNSYLVANIA - Adults collected from Oulema melanopus (cereal leaf beetle) larvae on oats in Amity Turnpike, Erie County. Collected by R. Shiner, June 18, 1976. Determined by cereal leaf beetle lab personnel at Niles, Michigan. This is a new county record. (Eckess).

A MYMARID WASP (Anaphes flavipes) - Adults recovered from Oulema melanopus (cereal leaf beetle) eggs collected from oats in these States: NEW JERSEY - From Newton, Sussex County, and Blairs-town Township, Warren County, June 24, 1976. WEST VIRGINIA - From Clay Magisterial District, Hancock County, June 23, 1976, and Liberty Magisterial District, Marshall County, June 22. Collected from both States by Bingham (no initials given) and R. Dysart. Determined by R. Dysart. These are new county records. (PPQ).

A WEEVIL (Rhinocyllus conicus) - WEST VIRGINIA - Fifty percent of Carduus crispus (welled thistle) heads had eggs and/or larvae present at Lindsides insectary, Monroe County, June 16, 1976. Introduced originally in 1971. (Bostic, Cole).

FEDERAL AND STATE PROGRAMS

DISEASES

BLACK STEM RUST (Puccinia graminis var. tritici) - KANSAS - Percent infection on wheat by county: Brown up to 40 and Jewell up to 20. (Sim).

OAT STEM RUST (Puccinia graminis var. avenae) - KANSAS - Percent infection on oats by county: Dickinson one, Marion 2, Harvey one, Rice one, McPherson trace, and Miami trace. (Sim).

WHITE PINE BLISTER RUST (Cronartium ribicola) - WISCONSIN - Uredial or red spores severe on alternate host Ribes spp. Will soon develop into telial stage to release spores capable of infecting white pine. (WI Pest Sur.).

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - INDIANA - Adults trace on corn in south districts. (Meyer). WEST VIRGINIA - Summer adults averaged 4 per square yard of oats in Pleasants County. (Tustin). PENNSYLVANIA - Light, larvae 0.6-2.4 per 2 feet of row in Westmoreland, Erie, and Butler Counties. Damage trace to 8 percent. (Garra et al.). NEW YORK - Larva 0.1-0.2 per stem in 10 central area oat fields. Parasitism by Tetrastichus julis (a eulophid wasp) heavy in all fields. (Willson). VERMONT - Early to late instars observed at Pownal, Bennington County. (MacCollom).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - OREGON - First control applications completed at Woodburn, Marion County, and in infested areas of Umatilla County. About 4,000 pines treated in both counties. Second application planned at Hermiston June 29. (Larson).

GRASSHOPPERS - NEW MEXICO - Control program on rangeland underway at Folsom, Union County, includes about 65,000 acres and extends along the Cimarron River and to the Colorado border. (NM Coop. Rpt.).

MONTANA - Hatch about completed, still many first instar nymphs, some adults. Generally lighter than in past 2 years. Damage not expected to warrant control in most areas. (Anderson, Jensen). KANSAS - Mostly Melanoplus differentialis, nymphs averaged up to 2 per square yard of sorghum in northwest Butler, northeast Sedgwick, and southeast Harvey Counties; some damage. (Bell). NEBRASKA - Nymphs heavy in Morrill County rangeland week ending June 18. (Hagen, O'Dea). Currently, Melanoplus spp. nymphs heavy in grassy areas throughout Buffalo, Hall, York, Merrick, and Fillmore Counties. (Raun) NORTH DAKOTA - Marginal counts averaged 3 per square yard on cropland in McKenzie County; field counts averaged less than one per square yard. Melanoplus bivittatus, M. sanguinipes, and M. packardii dominant from third instar up to adult. Up to 15 per square yard on 5,000 acres of Williams County rangeland. Ageneotettix deorum dominant from third through fourth instar. Up to 30 per square yard in small spots on McKenzie County rangeland. Amphitornus coloradus dominant from first through second instar. Up to 49 per square yard infested various rangeland areas on Ft. Berthold Indian Reservation. M. dawsoni dominant and 95 percent in first instar. (Brandvik, Winks).

GYPSY MOTH (Lymantria dispar) - PENNSYLVANIA - Pupae on oak in Clark's Valley, Dauphin County, June 15. Pupae in several areas with higher percentage where larvae under stress. Some still in third instar. Pupation in northern Lancaster County June 16 in areas of stress. Pupae smaller than normal. (Slippey). Larvae 80 percent in fifth and sixth instar with occasional prepupa week ending June 17, about 5 percent of larvae spinning; infestation moderate to heavy. Defoliation 75+ percent near ridge top on Big Mountain, Mackeyville Roads, Lamar Turnpike, Clinton County. Many oaks completely defoliated. (Cameron). NEW HAMPSHIRE - Partly defoliated individual trees, especially apple trees, in southeast area. (Burger).

JAPANESE BEETLE (Popillia japonica) - INDIANA - Adults in Elkhart County June 18, earliest report for area. (Porter). OHIO - Adults emerged. Present statewide in limited numbers. Adults in south area Jackson County June 18 and in extreme north area Fulton County June 22. (Lich, Lewis). WEST VIRGINIA - First adults in Kanawha County June 18. (Cole). MARYLAND - Adults increased statewide. Minor injury on soybeans, vegetables, and ornamentals. (U. Md., Ent. Dept.). DELAWARE - First adults in New Castle County June 19 feeding on several ornamentals. (Burbutis, Kelsey).

MORMON CRICKET (Anabrus simplex) - NEVADA - Total of 4,320 rangeland acres in Bailey Mountain, Coffin Mountain, Maples Canyon areas, Sulfur Spring Range of Elko County treated. (Kail). IDAHO - General outbreak in parts of Washington and Elmore Counties as of June 18. Rugged forested terrain in upper parts of Mannis Creek, Hitt Creek, Sage Creek, and Pine Creek in Washington County virtually untreatable. Counts heavy in Tollgate, Syrup Creek, Bennett Mountain, Long Tum, Danskin Peak, Lester Creek, Lime Creek, and Hot Spring Creek areas of Elmore County. Many infested areas untreated due to adverse circumstances. Infestations in Gem, Ada, and Bonneville Counties. Controls attempted in Elmore County and continued in Power County. (Pollard).

RED IMPORTED FIRE ANT (Solenopsis invicta) - NORTH CAROLINA - Collected at Shallotte, Brunswick County, by T.D. Langford, June 6, 1976. Collected in Onslow County by Wilmington Work Unit and at Newport, Carteret County, by P.J. Lockerman, June 14. Determined by L. Roberts; confirmed by R.F. Bollinger. All are first identifications as S. invicta for these counties. Previously reported in these counties as S. saevissima richteri. (PPQ).

SCREWORM (Cochliomyia hominivorax) Total of 554 cases reported from continental U.S. June 6-12 as follows: Texas 544, New Mexico 4, Arizona 6. Total of 508 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 380 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 144,069,000 as follows: Texas 117,303,000; New Mexico 8,550,000; Arizona 18,216,000. Total of 4,563,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

WHITEFRINGED BEETLES (Graphognathus spp.) - FLORIDA - First adults of season emerging from peanut field in Gadsden County; still very light, averaged one adult per 120 square feet. (FL Coop. Sur.). ALABAMA - Older larvae damaged beans, peas, tomatoes, and other vegetables in many gardens in Covington County. (Johnson).

CORRECTIONS

CPPR 1(21):256 - THRIPS (Franklinella spp.) ... should be THRIPS (Frankliniella spp.) ...

CPPR 1(21):261 - BAGWORM (Thyridopteryx ephemeraeformis) NEW HAMPSHIRE - ... Delete note.

CPPR 1(23):300 - NEW HAMPSHIRE - Prosimulim mixtum ... should read ... Prosimulium mixtum ...

CPPR 1(25): 345 - GRASSHOPPERS - ... NEW MEXICO delete "Infested 450,000-500,000 acres at Folsom, Union County." (NM Coop. Rpt.).

HAWAII PEST REPORT

New Records - Nymphs of a WHITEFLY (Orchamoplatus mammaeferus (Quaintance & Baker)) collected from Codiaeum variegatum (variegated leafcrotton) at Palolo, Oahu, by R. Ito, June 10, 1976. Determined by M.B. Stoetzel. Reported on leafcrotton, Citrus medica (citron), and orange from Pacific Basin (Australia, Fiji, Society Islands, Cook Islands, Marquesas, Malaya, and Java). Preliminary survey of leafcrotton hedges in yards showed infestation to extend into 4 yards in one-square-block area. Delineating and host range surveys will continue. (L. Nakahara). This is a new United States record but not known to occur on the continental U.S. (PPQ).

Single specimen of BROWN GARDEN SNAIL (Helix aspersa) collected from garden at Koloa, Kauai, by B. Kunimura, June 11, 1976. Determined by S. Higa. This is a new State record. First recovery of this snail from area other than at ports of entry in State. Area baited and surveyed. Surveillance will continue although no other specimens collected. (Sugawa).

General Vegetables - CARMINE SPIDER MITE (Tetranychus cinnabarinus) counts and damage moderate to heavy on 0.5 acre of watermelon at Kiapana and on 0.25-acre each of pole beans and eggplant at Hanapepe, Kauai. Light on 5 acres of papaya at Moloaa and 5,000 square feet of dasheen at Waimea Valley, Kauai. Dasheen leaves heavily damaged but the predator, Phytoseiulus macropilus (a phytoseiid mite) heavy. Counts and damage of LEAFMINER FLIES (Liriomyza spp.) generally moderate to heavy on 0.5 acre of watermelon at Kiapana, 0.25 acre of pole beans at Hanapepe, and 1.5 acres of tomatoes at Anahola, Wailua Homestead, and Hanapepe, Kauai. Heavily mined 60-100 percent of foliage. (Sugawa, L. Nakahara). TOMATO PINWORM (Keiferia lycopersicella) infestations (90 percent of leaves, one larva per leaf) and damage heavy in one acre of tomatoes at Wailua Homestead. Larvae light on adjacent 0.25 acre of eggplant (1-5 per plant) and in yard planting of tomato at Kaumakani, Kauai. Adults of MELON FLY (Dacus cucurbitae) heavy on 0.5 acre of tomatoes at Moloaa, Kauai. Many harvested fruits discarded. (Sugawa, L. Nakahara).

Beneficial Insects - Two adults of a TACHINID FLY (Eucelatoria sp. near armigera) and 3 adults of a BRACONID WASP (Meteorus laphygmae) recovered from 90 Melipotis indomita (a noctuid moth) larvae collected from kiawe trees during recent survey for parasites at Hickam Air Force Base, Oahu. (Teramoto).

DETECTION

NEW UNITED STATES RECORD

INSECTS

A WHITEFLY (Orchamoplatus mammaeferus (Quaintance & Baker)) - HAWAII - Oahu. (p. 372).

NEW STATE RECORDS

INSECTS

A EULOPHID WASP (Tetrastichus julis) - VERMONT - Bennington. (p. 368).

SLUGS AND SNAILS

BROWN GARDEN SNAIL (Helix aspersa) - HAWAII - Kauai. (p. 372).

NEW COUNTY RECORDS

INSECTS

AN APHID (Drepanaphis acerifoliae) - WEST VIRGINIA - Kanawha (p. 366).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - KANSAS - Greenwood, Montgomery, Wilson, Labette, Reno, Dickinson, Barton, Saline, Edwards, Pawnee, Republic, Ottawa, Allen (p. 359).

A CECIDOMYIID MIDGE (Taxodiomyia cupressiananassa) - ALABAMA - Mobile (p. 366).

EAR TICK (Otobius megnini) - ARKANSAS - Van Buren (p. 368).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Bartholomew; MICHIGAN - Kent; OHIO - Fulton, Williams, Defiance, Hancock, Paulding, Putnam, Ottawa, Seneca, Logan; WEST VIRGINIA - Monroe; MARYLAND - Garrett; NEW YORK - Albany, Schoharie, Oswego, Columbia, Fulton, Ulster, Orange, Jefferson (p. 368).

AN ICHNEUMONID WASP (Diaparsis sp.) - PENNSYLVANIA - Erie (p. 369).

AN ICHNEUMONID WASP (Lemophagus curtus) - MICHIGAN - Allegan, Kent; OHIO - Williams, Hancock (p. 368).

A MYMARID WASP (Anaphes flavipes) - NEW JERSEY - Sussex, Warren; WEST VIRGINIA - Hancock, Marshall (p. 369).

A SOFT SCALE (Pseudophilippia quaintancii) - SOUTH CAROLINA - Beaufort (p. 366).

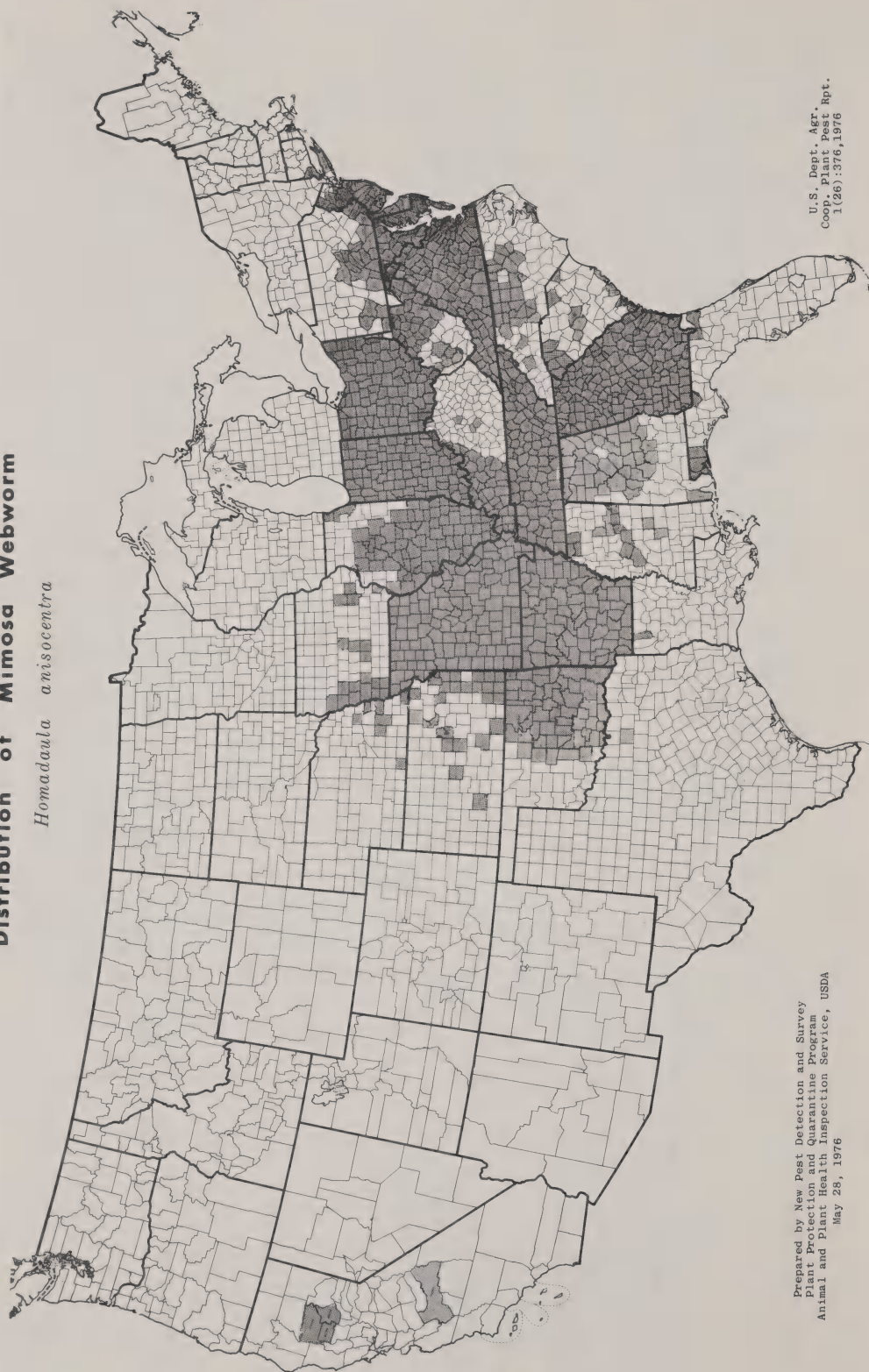
SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NORTH DAKOTA - Nelson (p. 358).

YELLOW SUGARCANE APHID (Sipha flava) - ARKANSAS - Lawrence, Craighead, Poinsett (p. 357).

LIGHT TRAP COLLECTIONS	Temperature °F	Precipitation inches	Type of trap	Crops	
				1	2
PENNSYLVANIA (Districts)					
Central 6/16-23	58		BL	28	1
North West 6/16-23	18		BL	6	
SOUTH CAROLINA (Counties)					
Dillon 6/21-23		77	BL		
Florence 6/21-23		12	BL		
WEST VIRGINIA					
Kanawha 6/22		1	BL		
Randolph 6/21			BL		
WISCONSIN					
Evansville 6/15-21			BL	4	
Lancaster 6/16-23			BL	2	

Distribution of Mimosa Webworm

Homadaula anisocentra



Prepared by New Pest Detection and Survey
Plant Protection and Quarantine Program
Animal and Plant Health Inspection Service, USDA
May 28, 1976

U.S. Dept. Agr.
Coop. Plant Pest Rpt.
1(26):376, 1976

WEATHER OF THE WEEK ENDING JUNE 27

Reprinted from Weekly Weather and Crop Bulletin Supplied by National Weather Service, NOAA.

HIGHLIGHTS: Near or slightly below normal temperatures dominated most of the Nation during the week except the lower California coast, which sizzled under 90 to 100 degree temperature heat, and the New England States. Scattered showers and thundershowers turned up in most sections of the United States, especially the central Plains, middle Mississippi and Ohio Valleys, and nearly all of Florida. Forecasters tracked isolated severe weather in parts of the Midwest. Tornadoes and hail accompanied heavy mid-week thunderstorms from the Atlantic westward through the Great Plains region.

TEMPERATURE AND PRECIPITATION: In the southeast quarter of the Nation, only the calendar testified that Monday was the first day of summer. More than two dozen cities chalked up record low readings: Springfield, Missouri--49 degrees, Shreveport, Louisiana--56 degrees, Jackson, Mississippi--57 degrees, and Fort Worth, Texas--58 degrees. In the East, forecasters blamed a sluggish frontal system for scattered showers and thunderstorms, locally heavy in places from Maine along the Appalachians to the Atlantic and into Florida and across parts of the Ohio Valley. Joining forces with another frontal system, a low pressure center triggered some thundershowers over the Texas panhandle into the Colorado High Plains and in Oklahoma and northern New Mexico. In the West, still another front brought scattered precipitation to the northern portions of the Rockies and the Intermountain region. Winds to nearly 60 m.p.h. swept across Utah.

Tuesday, isolated to scattered showers and thunderstorms turned up in all sections of the Nation except Oregon, California, and Arizona. Areas along the Atlantic coast experienced the heaviest and most activity and other strong storms took shape in North Dakota. Clouds darkened the eastern two-thirds of the Nation. Though little of the storm activity was severe, one tornado unroofed a home near Jacksonville, Florida, and another touched down near Denver, Colorado. During the day, scattered showers and thundershowers stretched along the Rockies into the Plains and the Midwest. Other thundershowers rumbled across the gulf coast, southern Atlantic States, southeast Great Lakes States and portions of New England. Heavy thunderstorms poured across much of the Nation at midweek from the Atlantic westward through the Great Plains region. Locally heavy rains saturated parts of Missouri and Arkansas. In Wilmington, North Carolina, some streets collected as much as 1.5 feet of water.

Generated by a sluggish cold front, the strongest thunderstorms developed in a line from the Texas panhandle into southeast South Dakota. Kansas took the worst beating claiming 9 of 15 tornadoes that touched down in the area. Winds to 70 m.p.h. whirled by Tipton, Kansas, and large hail damaged crops in the western areas. Heavy winds in Mississippi caused one injury and damaged several mobile homes. Thursday's major weather theme--thunderstorms. As the cold front chugged slowly across the central United States, a broad band of showers and thunderstorms dumped heavy rains from the Mississippi and Ohio Valleys into the

Great Lakes region and New England. Cool air streamed into the northern Rockies, early afternoon readings slipped into the mid 50's to the mid 60's. In contrast, unseasonably warm temperatures baked the Southwest and New England. In California, the mercury shot up to 92 degrees in Oakland, 95 in San Francisco, and south of the Bay area hit 100 degrees in San Jose and Salinas. In the Northeast, the mercury cracked previous record highs in Portland, Maine, at 93 and Boston at 95. Some locally heavy rains accompanied thunderstorms on Friday that continued to move slowly through Texas and the lower Mississippi Valley, the gulf and southern Atlantic coasts, Ohio Valley, and northern New England. Widely scattered precipitation stretched across the northern Great Lakes region and sections of the Dakotas into Montana. In California, the central and southern coastal areas continued to sizzle under temperatures ranging from 90 to 100 degrees. In the Los Angeles basin, the mercury shot up to 104 in Ontario and 105 in Van Nuys. While warm humid air smothered the Atlantic and Gulf Coast States, cooler air streamed into the northwest United States where nighttime temperatures slipped into the 30's and 40's over the northern portions of the Rockies and the Plateau region.

Near normal temperatures and precipitation created typical summer weather patterns across most of the Nation on Saturday. Severe daytime weather included strong thunderstorms from Minnesota into Kansas. Two tornadoes destroyed buildings and injured three people in Omaha, Nebraska, and winds to 100 m.p.h. rocked northwest Iowa. By nightfall though, storm activity weakened and only a few thunderstorms remained over the upper Mississippi Valley and central Plains. Sunday brought record low readings to the northern Plains where North Platte, Nebraska, measured 42 degrees and Sheridan, Wyoming, 35. In contrast, readings in the 90's spread throughout the Desert Southwest area where Phoenix, Arizona, scored 100 degrees by noon. The southern States claimed most of the end-of-week precipitation which ranged from Texas across the Gulf Coast States through the Tennessee Valley into the Carolinas.

UNITED STATES DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

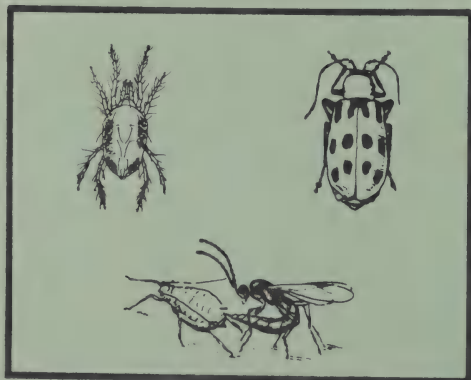
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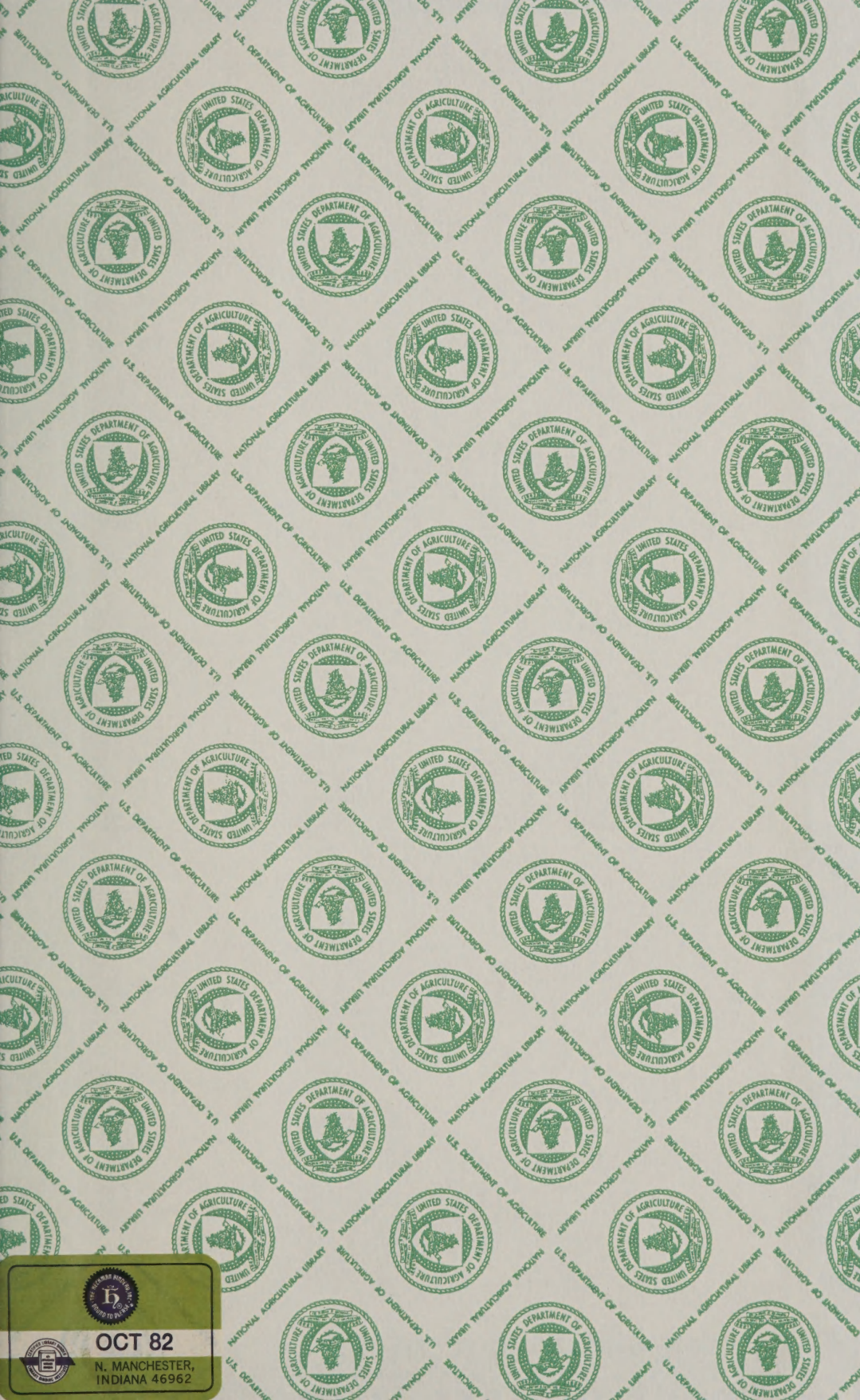


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